

حمل الآن

مجانا وحصريا

# المراجعة رقم (1)

## الترم الثاني



### Lesson 1 Artificial Intelligence Applications

- » **Narrow AI:** It focuses on specific tasks, such as face recognition or language translation.
- » **General AI (GAI):** It can perform any human tasks, think, innovate, and adapt.
- » **Super AI (SAI):** It is the most advanced; it can solve complex problems and discover new things.

#### Key Points:

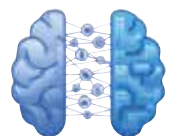
#### » Applications of AI in Daily Life:

- ① **Personal Assistant:** Like Siri or Alexa, They use AI to understand and perform commands.
- ② **Smart Games:** Video games use AI to make games fun and challenging.
- ③ **Smart Cars:** Self-driving cars are enabled by AI.
- ④ **Digital Doctors:** AI aids in faster and more accurate medical diagnoses.
- ⑤ **Instant Translator:** AI translates languages in real-time.
- ⑥ **Smart Shopping:** AI suggests products based on previous **purchases**.



#### » Fields of Artificial Intelligence:

- ① **Machine Learning:** AI learns from data and experiences.
- ② **Natural Language Processing (NLP):** AI understands, interprets, and speaks human language.
- ③ **Computer Vision:** AI analyzes and understands visual information.
- ④ **Robotics:** AI-powered robots perform various tasks.
- ⑤ **Expert Systems:** AI solves complex problems and make decisions.



⑥ **Deep Learning:** AI learns complex tasks using neural networks.

» **Creating Intelligent Models with Teachable Machine:**

- **Teachable Machine:** It is a tool for creating models to recognize images, sounds, and movements.
- **Model Building Training:** Teaching AI by showing it examples is similar to teaching a child.

## Lesson 2 Sensors

### Definition:

» **Sensors:** They are devices that sense changes in the environment and convert them into signals for machines to understand and make decisions.

### Key Points:

» **How Sensors Work:**

- ① **Sensing:** They capture information (heat, light, and sound).
- ② **Signal Conversion:** They convert information into electrical signals.
- ③ **Transmission:** They send signals to display results or perform operations.

» **Importance of Sensors for Robots:**

- **Function:** Sensors act as the “senses” of robots, helping them see, hear, sense, and touch.

» **Types of Robotic Sensors:**

- ① **Distance Sensors:** They measure the distance to avoid collisions.
- ② **Light Sensors:** They adapt to changing light conditions.
- ③ **Sound Sensors:** They respond to voice commands.
- ④ **Motion Sensors:** They detect movement and direction changes.
- ⑤ **Special Sensors:** They measure temperature and humidity.

» **Examples of Devices Using Sensors:**

- ① **Vacuum Cleaner Robot:** It avoids obstacles.

② **Surgical Robot:** It uses precise sensors to perform surgeries.

③ **Self-Driving Cars:** They see the road and make decisions.

### » Types of Distance Sensors:

① **Ultrasonic Sensors:** They emit high-frequency sound waves to measure distance.

– **Examples:** Vacuum cleaner robots, parking systems, and fluid level measurement



② **Laser Rangefinders:** They emit laser beams for high accuracy.

– **Examples:** 3D laser scanners, ground scanning systems, and industrial measurement



③ **Visible Light Sensors:** They use digital cameras to analyze images.

– **Examples:** Self-driving car cameras, industrial vision systems, and augmented reality systems

④ **Infrared Sensors:** They emit infrared rays, then receive the returning rays.

» They are widely used in consumer electronics.

– **Examples:** Remote controls, and non-contact thermometers



⑤ **Time of Flight Sensors:** They measure the light pulse travel time.

– **Examples:** 3D sensors, and motion tracking systems

### » Factors for Choosing Sensors:

① **Required Range:** The maximum distance to measure

② **Required Accuracy:** The measurement precision needed

③ **Operating Environment:** Conditions like lighting, temperature, and humidity.

④ **Cost:** Device and installation expenses.



## »» Daily Applications of Sensors:

- 1 **Smartphones:** Taking pictures, adjusting lighting, determining locations
- 2 **Modern Cars:** Measuring speed, warning of collisions, assisting in parking
- 3 **Smart Homes:** Motion sensors for automatic lighting
- 4 **Phone Microphone:** Converting sound to electrical signals
- 5 **Motion Sensors in Games:** Detecting phone tilts
- 6 **Touch Screen:** Sensing finger touches

## Lesson 3 Robots

### Definition:

»» **Robot:** It is a device programmed to automatically perform specific tasks, capable of moving, sensing, and interacting with its surroundings.

### Key Points:

## »» Types of Robots:

- 1 **Industrial Robots:** They are used in factories for precise tasks, e.g., car production.
- 2 **Home Robots:** They are found in homes, e.g., Roomba for cleaning floors.
- 3 **Medical Robots:** They assist in surgeries with high accuracy.
- 4 **Educational Robots:** They are used in schools to teach programming, e.g., LEGO Mindstorms.



## »» Robot Components:

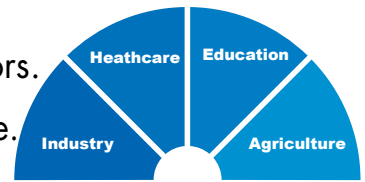
- 1 **Structure:** It is the main part carrying all components, made of materials like metal, plastic, or carbon.
- 2 **Sensors:** They are the senses of the robot, e.g., sound sensors and cameras.
- 3 **Motors:** They move parts of a robot, so it can move and execute commands, e.g., electric motors and pneumatic motors.



- ④ **Controller:** It is the “brain” of the robot, processes data and issues commands.
- ⑤ **Power Source:** It can be batteries, solar cells, or direct electrical power source.
- ⑥ **Software:** It makes the robot “smart,” includes algorithms for responses.
- ⑦ **Communication Tools:** They interact with users or other robots, e.g., Bluetooth and Wi-Fi.

### » Areas of Use of Robots:

- ① **Industry:** They improve productivity, reducing errors.
- ② **Healthcare:** They assist in surgeries and patient care.
- ③ **Education:** They provide interactive learning.
- ④ **Agriculture:** They are used in precision farming to increase crops and reduce waste.



### » Challenges:

- ① **Safety:** The need to ensure the safety of robots during work.
- ② **Employment:** Concerns that they can replace human labor.
- ③ **Ethics:** Impact on society.

### » Benefits:

- ① **Increased Efficiency and Productivity:** They can do continuous work without fatigue or interruption.
- ② **High Accuracy and Reduced Errors:** They are precise in tasks, like surgeries and electronics assembly.
- ③ **Safety and Security:** They can perform dangerous tasks and handle heavy weights and hazardous materials.
- ④ **Adaptability and Diversity:** They perform various tasks efficiently. Ex: home robots and educational robots
- ⑤ **Reduced Costs:** They provide long-term cost savings by reducing human labor or errors, and achieving accuracy.
- ⑥ **Contributing to Development:** They encourage technological advancements, e.g., space exploration and medical research.



## Lesson 4 Scratch

### Definition:

- » **Scratch Program:** It is a visual and easy-to-use educational tool for learning programming through games, animations, music, and more.



### Key Points:

#### » Scratch Program Features:

- 1 **Simple Interface:** It uses and orders visual blocks to form programs.
- 2 **Educational:** It is designed to teach basic programming concepts in a fun way.
- 3 **Free:** It is available for download from its official website for free.
- 4 **Creative Thinking:** It develops skills in creative thinking and problem-solving.
- 5 **Problem-solving Skills:** It solves problems in a logical way.
- 6 **Collaboration:** It enhances teamwork skills.
- 7 **Foundation:** It provides a strong start for learning more complex programming languages.
- 8 **Sharing:** Its projects can be shared with others.



#### » Program Interface:

- Menu Bar
- Command Blocks Area
- Script Area: It collects programming sections.
- Stage Area: It shows project results.
- Sprite Object
- Sprites Area: It contains the project's objects.

#### » Coordinates:

- **Determine Coordinates:** X=..... (horizontal), Y=..... (vertical)
- **Change Coordinates:** Drag and drop the sprite to a new position.

## » Implement the project:

- To execute the project, click on the icon .
- To stop the execution of the project, click on the icon .

## » Saving the Project:

- File Menu: Choose "Save to your computer".
- The file extension is **Sb3**.

# Lesson 5 Sprites Area in Scratch

## Definition:

» **Sprites Area:** It contains the sprites used in the project.

## Key Points:

## » Sprites Area Features:

- 1 **Name:** It is modified by clicking and renaming.
- 2 **Location:** It determines the sprite's position (X, Y values).
- 3 **Direction:** It changes the sprite's movement direction.
- 4 **Visibility:** It shows or hides the sprite.
- 5 **Size:** It changes the sprite's size.
- 6 **Delete:** It removes the sprite.
- 7 **Add:** It is used to choose a new sprite.

## » Adding a New Sprite:

- Choose Sprite: Select Basketball.
- Remove: Delete the cat sprite.

## » Project 2: Moving the Ball

- **Objective:** To move the ball randomly, make a sound, repeat 10 times.

## » Steps:

- 1 **Motion:** Choose "Go to random position".
- 2 **Sound:** Choose "Play sound".
- 3 **Control:** Choose the "Repeat" command.
- 4 **Events:** Choose the "When Clicked" command.

## »» Project 3: Spaceship

– **Objective:** To move a spaceship randomly, make a sound, change size, repeat 5 times, start from (0, 0).

– **Steps:**

- 1 **Insert Sprite:** Add Rocketship.
- 2 **Remove:** Delete the cat sprite.
- 3 **Background:** Choose "Space".

## »» Square Drawing Project:

- 1 **Open Project:** Start a new project.
- 2 **Select Pen:** Drag the "pen" block to start drawing.
- 3 **Set Color and Size:** Use "Set Pen Color to" and "Set Pen Size to" blocks.
- 4 **Move the Pen:** Use "Go to x:y:" blocks to draw lines.
- 5 **Repeat the Steps:** Draw more lines to form shapes.

## »» Drawing a circle:

»» Use the "Repeat" block to repeat the process of drawing short lines at different angles.

## »» Notes:

- 1 **Drawing Shapes:** Set start and end points for lines.
- 2 **Adding Details:** Add features like eyes, mouth, and ears.

# Lesson 6 Principles of Python

### Definition:

»» **Python:** It is a programming language widely used in data science, machine learning, and web development.



**Key Points:****» Features of Python:**

- 1 **Open Source:** It is free and open for everyone to use and develop.
- 2 **Interpreted Language:** It translates codes line by line, making error detection easier.
- 3 **Versatility:** It is used in web development, data science, AI, machine learning, and game programming.
- 4 **Easy-to-Use:** It is simple and organized, with syntax similar to English.
- 5 **Integration:** It can be integrated with languages like C, C++, and Java.
- 6 **Libraries:** Numerous libraries are available for various tasks.

**» Python Libraries:**

- » **NumPy:** It is used in data science, statistics, and AI.
- » **Pandas:** It is used for data analysis and processing.
- » **Matplotlib:** It is used for creating graphs and charts.

**» How to Download Python:**

- 1 **Visit:** Go to the official Python website [www.python.org](http://www.python.org).
- 2 **Choose Download:** Select the download option.
- 3 **Select System:** Choose your operating system (Windows, Mac, or Linux).
- 4 **Choose Bit Version:** Select 64-bit or 32-bit based on your device specifications.
- 5 **Install:** Download and install the program, following the instructions.

## Lesson 7 Variables in Python

**Definition:**

- » **Variables:** They are reserved places in memory to store values that can change during program execution.



## Key Points:

### »» Conditions for Naming Variables in Python:

- ❶ Start with a letter or underscore (\_).
- ❷ Contain letters (A-Z), numbers, or underscore (\_).
- ❸ Avoid reserved words.

### »» Types of Variables in Python:

- ❶ **Numbers:** To store numerical values.
  - **Integer Variables (int):**  $X = 5$ ,  $Y = 10$
  - **Decimal Variables (float):**  $Z = 5.25$ ,  $A = 8.32$
- ❷ **Strings:** To store texts, enclosed in single or double quotes.
  - **Examples:** `Name = "Taher"`, `City = 'Cairo'`
- ❸ **Booleans:** They contain only two values, True or False.
  - **Examples:** `Is_taher_student = False`, `Is_taher_a_teacher = True`

### »» Python Program Interface:

- ❶ **Interactive Python Interface (Python Shell):** It is used to write and execute simple codes directly.
  - It is automatically installed when you install the language.
- ❷ **Text Editor:** It is used to write longer, complex codes and save them for later execution.



### »» Using the type ( ) Function:

- **Purpose:** To determine the type of a variable.

### »» Simple Python Code Using Variables:

- **Print Function:** It displays text, variables, or results of mathematical operations on the output screen.



# كيفية طباعة صفحات معينة من ملف معين مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9



حمل الآن

مجاناً وحصرياً

# المراجعة رقم (2)

## الترم الثاني











## Second Term Questions Bank







### Question 01

### choose the correct Answer

- 1 ..... are used to avoid obstacles.  
 (a) Light sensors (b) Sound sensors (c) Distance sensors (d) Heat sensors
- 2 To execute the project, click on the icon .....  
 (a)  (b)  (c)  (d) 
- 3 One of the advantages of Python is that it .....  
 (a) Open source (b) Closed source (c) Not free (d) Limited use
- 4 The string value of a variable is placed between the marks ....  
 (a) " " (b) < > (c) >= (d) <=
- 5 ..... artificial intelligence can solve problems that are difficult for humans to solve easily and discover new things we never imagined before.  
 (a) Narrow (b) General (c) Super (d) Precise
- 6 In the Scratch program, the result of the work or project appears in the.....  
 (a) Script area (b) Stage area (c) Area Blocks (d) Sprites area
- 7 Python translates code line by line, which means it is .....  
 (a) complex language (b) Closed source (c) interpreted language (d) Not integrated
- 9 The "Go to random position" command is found in the ..... group.  
 (a) Motion (b) Sound (c) Control (d) Events
- 10 One of the Common applications of sensors is the use of infrared in.....  
 (a) 3D scanning (b) Remote controls (c) Vacuum cleaners (d) Smartphones
- 11 In Python, variable names can begin with .....  
 (a) underscore (b) letters (c) numbers (d) both a and b





- 12 The official website of Python is .....  
 (a) www.python.ad (b) www.app.org (c) www.python.org (d) www.python.edu
- 13 ..... robot is an example of a home robot.  
 (a) Industrial (b) Medical (c) Roomba (d) Educational
- 14 The variable names "Taher", "TAHER", and "taher" refer to ..... variable(s).  
 (a) the same (b) different (c) invalid (d) reserved
- 15 To stop the execution of the project, click on the icon .....  
 (a)  (b)  (c)  (d) 
- 16 ..... is a library widely used in data science, statistics, and artificial intelligence.  
 (a) Pandas (b) Matplotlib (c) NumPy (d) Angular
- 17 Decimal variables in Python are stored as ..... data types.  
 (a) string (b) int (c) Boolean (d) float
- 18 The "Pen" extension is added by clicking on .....  
 (a) Choose Sprite (b) Add Extension (c) Delete Sprite (d) Change Backdrop
- 19 The function ..... is used to display text or values on the output screen.  
 (a) Cos( ) (b) Type( ) (c) Print( ) (d) Sin( )
- 20 ..... like Siri or Alexa use artificial intelligence to understand and execute your commands.  
 (a) Personal assistant (b) Instant translator (c) Smart shopping (d) Natural language
- 21 To draw a geometric shape, you need to set the ..... points of the lines.  
 (a) random (b) middle (c) start and end (d) none of them
- 22 Strings in Python are placed between .....  
 (a) ' ' (b) " " (c) both a and b (d) none of them
- 23 To determine the data type of a variable, we use the function .....  
 (a) Cos( ) (b) Type( ) (c) Print( ) (d) Sin( )
- 24 If the movement is too fast, the command ..... from Control Blocks is used.  
 (a) Wait (b) Repeat (c) Forever (d) Else





- 25 Boolean variables in Python can have ..... value(s).  
 (a) one (b) two (c) three (d) four
- 26 The first step in the operation of a sensor is .....  
 (a) sensing (b) displaying (c) transmitting (d) transduction
- 27 Python is widely used in .....  
 (a) data science (b) machine learning (c) web development (d) all of them
- 28 The "When  Clicked" command is found in the ..... group.  
 (a) Sound (b) Motion (c) Control (d) Events
- 29 Python variables are .....  
 (a) reserved (b) invalid (c) case-sensitive (d) case-insensitive
- 30 ..... is a type of AI that focuses on performing specific tasks.  
 (a) Narrow AI (b) General AI (c) Super AI (d) None of them
- 31 To execute the project's steps, use the command ..... embedded at the beginning of the code segment.  
 (a)  (b)  (c)  (d) 
- 32 Python translates programming codes .....  
 (a) all at once (b) in batches (c) line by line (d) none of them
- 33 A robot is a device that can be programmed to perform tasks .....  
 (a) manually (b) randomly (c) automatically (d) none of them
- 34 Python is ..... for beginners.  
 (a) difficult (b) easy (c) complex (d) outdated
- 35 To add a new object, press on .....  
 (a) Start (b) Stop (c) Area Blocks (d) Choose Sprite
- 36 Python can be integrated with .....  
 (a) C (b) C++ (c) Java (d) all of them
- 37 A power source for robots is the .....  
 (a) sensors (b) motors (c) batteries (d) software





- 38 To display text, variables, or even the results of arithmetic operations, we use the function .....
- (a) Cos ( ) (b) Type ( ) (c) Print ( ) (d) Sin ( )
- 39 Python is known for its .....
- (a) versatility (b) limiting (c) complexity (d) high cost
- 40 Deep learning mainly relies on .....
- (a) neural networks (b) databases (c) robotics (d) language models
- 41 Python has libraries for .....
- (a) data analysis (b) graph creation (c) both a and b (d) none of them
- 42 A new background for the project is inserted by pressing .....
- (a) Script Area (b) Stage (c) Choose Sprite (d) Choose a Backdrop
- 43 NumPy library is used in .....
- (a) data analysis (b) data science (c) web development (d) none of them
- 44 Pandas is a library for .....
- (a) creating graphs (b) data analyzing (c) machine learning (d) none of them
- 47 Robots can move, sense, and interact with their surroundings using .....
- (a) sensors (b) motors (c) controllers (d) all of them
- 48 Python libraries provide .....
- (a) complex codes (b) limited functions (c) pre-built codes (d) none of them
- 49 Matplotlib library is used for .....
- (a) creating graphs (b) data analysis (c) web development (d) none of them
- 50 Personal assistants, such as ....., understand your commands and perform them.
- (a) Siri (b) Alexa (c) Scratch (d) both a and b
- 51 The file extension for Scratch project is .....
- (a) Sb3 (b) bmp (c) Jpg (d) exe





- 52 When you make a Scratch project, to move the sprite, use the ..... command group.  
 (a) Looks (b) Motion (c) Events (d) Control
- 53 ..... is/are considered the "brain" of the robot.  
 (a) Sensors (b) Motors (c) The structure (d) The controller
- 54 An example of educational robots is .....  
 (a) Roomba (b) Zoomba (c) LEGO Mindstorms (d) all of them
- 55 In Scratch, to repeat the sprite's movement, we use the .....  
 (a) Start (b) Stop (c) Command Blocks Area (d) Choose Sprite
- 56 To take pictures and videos, we use ..... sensors.  
 (a) sound (b) touch (c) light (d) motion
- 57 The "Wait" command is found in the ..... blocks.  
 (a) Motion (b) Looks (c) Events (d) Control
- 58 The main part that carries all components of a robot is the .....  
 (a) sensors (b) motors (c) structure (d) controller
- 59 To make the movement continuous, you can install the "move" command ..... time(s).  
 (a) one (b) several (c) zero (d) none of them
- 60 ..... sites use AI to suggest products based on your purchasing behavior.  
 (a) Smart games (b) Smart shopping (c) Digital doctors (d) Instant translator
- 61 In Scratch program, to add sound effect to the sprite, use the command .....  
 (a) Repeate (b) Looks (c) Play sound (d) Choose a Backdrop
- 62 ..... is a tool that helps you create models to recognize images, sounds, and movements.  
 (a) Google Drive (b) Microsoft Edge (c) Teachable Machine (d) Alexa
- 63 To save a project, choose "Save to your computer" from the ..... menu.  
 (a) File (b) Edit (c) View (d) Help
- 64 ..... sensors are used for non-contact temperature measurement.  
 (a) Ultrasonic (b) Infrared (c) Light (d) Motion





- 65 In Scratch, to start drawing with the pen, use the ..... block.  
 (a) pen up (b) pen down (c) set pen color (d) none of them
- 66 Scratch uses ..... to create programs.  
 (a) command-lines (b) visual blocks (c) text-based (d) audio files
- 67 The "Pen" extension is used to .....  
 (a) move sprites (b) draw shapes (c) play sounds (d) change the background
- 68 ..... make(s) the robot smart, including algorithms to respond to information.  
 (a) A controller (b) Software (c) Motors (d) Sensors
- 69  $X=0$  represents the ..... axis.  
 (a) horizontal (b) vertical (c) diagonal (d) none of them
- 70 ..... is a field of AI that involves learning from mistakes.  
 (a) Machine Learning (b) Smart shopping (c) Computer Vision (d) Robotics
- 71 In Scratch, to stop drawing with the pen, use the ..... block.  
 (a) pen up (b) pen down (c) set pen color (d) none of them
- 72 An example of a communication tool used by robots is .....  
 (a) sensors (b) Wi-Fi (c) Bluetooth (d) both b and c
- 73 The "Sprite" in Scratch represents a/an .....  
 (a) object (b) file menu (c) background (d) command block
- 74 ..... is a field of AI that enables computers to interpret visual information.  
 (a) Robotics (b) Computer Vision (c) Deep Learning (d) Machine Learning
- 75 ..... sensors help cars determine the distance to other vehicles.  
 (a) Sound (b) Light (c) Infrared (d) Distance
- 76 ..... sensors are commonly used in remote controls.  
 (a) Ultrasonic (b) Infrared (c) Light (d) Motion
- 77 The ..... contains the objects used in the project.  
 (a) Menu Bar (b) Script Area (c) Command Blocks Area (d) Sprites Area





- 78 Medical robots are known for their ..... .  
 (a) cleaning (b) accuracy (c) speed (d) entertainment
- 79 The Sprites Area in Scratch contains ..... .  
 (a) Extensions (b) sprites (c) sounds (d) blocks
- 80 Laser rangefinders are accurate because they use ..... .  
 (a) sound waves (b) visible light (c) infrared waves (d) laser beams

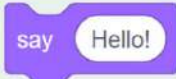
Question 02

put ( √ ) or ( × )

- 1 Medical robots help doctors performing surgeries. ( )
- 2 Scratch is a paid program. ( )
- 3 Python is used in data science and machine learning. ( )
- 4 Artificial intelligence is used only in the video game industry. ( )
- 5 In the Scratch program, a code segment is a combination of commands arranged in a specific order. ( )
- 6 Sensors are not used in smartphones. ( )
- 7 Artificial intelligence can assist doctors in diagnosing diseases. ( )
- 8 Python is considered one of the most difficult programming languages. ( )
- 9 Scratch uses a visual interface based on blocks. ( )
- 10 It is not possible to create applications and websites using Python. ( )
- 11 Visible light sensors help cars determine the distance to other vehicles. ( )
- 12 Python is considered an interpreted language because it translates code line by line. ( )
- 13 Before executing any project, the coordinates of the object on the stage are X=10 and Y=10. ( )
- 14 Python is considered a free and open-source language, which does not allow anyone to develop it. ( )
- 15 The design of the structure affects the weight of the robot and its ability to move. ( )
- 16 Artificial intelligence is only one type. ( )
- 17 In the Wait command, the wait value of 1 represents ( 1 second). ( )
- 18 One of the disadvantages of Python is the limited libraries that you can use. ( )





- 19 The Scratch program helps the student learn the principles of programming. ( )
- 20 The robots' work is limited to factories only. ( )
- 21 Python is used in web application development, data science, artificial intelligence, machine learning, and game programming. ( )
- 22 In Python, when naming variables, reserved words can be used. ( )
- 23 The object's position on the stage is determined by the value of the horizontal axis X and the vertical axis Y. ( )
- 24 Narrow artificial intelligence can perform any task that a human can perform. ( )
- 25 To display Hello on the stage, select the  command Blocks. ( )
- 26 To determine the type of a variable, we do not need to use the type( ) function. ( )
- 27 Artificial intelligence is a branch of computer science. ( )
- 28 We use click and drag-and-drop to interact with any command (inside) the code segment. ( )
- 29 Matplotlib: is a library for data analysis and manipulation. ( )
- 30 In Python, the NumPy library is used in data science, statistics, and artificial intelligence. ( )
- 31 The cost of a sensor is not a significant factor when choosing the appropriate type. ( )
- 32 Python can be integrated with other languages such as C, C++, and Java. ( )
- 33 In the Scratch program, students face difficulties in sharing projects with others. ( )
- 34  $Y = 10$ , the data type of variable Y is an integer. ( )
- 35 Self-driving cars rely entirely on artificial intelligence. ( )
- 36 A variable name cannot start with a letter or ( \_ ) character. ( )
- 37 The Scratch program offers a wide range of ideas that can be programmed. ( )
- 38 To determine the type of a variable, you can use the Len() function. ( )
- 39 The motors used in robots include electric motors and pneumatic motors. ( )
- 40 The variable name can contain letters (A-Z), numbers, or the underscore \_ . ( )
- 41 Laser rangefinders are accurate because they use laser beams. ( )
- 42 The "Repeat" command is found in the Control group. ( )





- 43 To save your project, select Save to your computer from the File menu. ( )
- 44 Artificial intelligence can learn new things slowly. ( )
- 45 To make the movement continuous, you can assemble the command several times. ( )
- 46 Pandas is a library for data analysis and manipulation in Python. ( )
- 47 The position of the Sprite can be changed on the stage by double-clicking on it. ( )
- 48 Text value for variables are placed between single quotes ' ' or double quotes " ". ( )
- 49 (Is\_taher\_student = False), the data type of the variable (Is\_taher\_student) is Boolean. ( )
- 50 The first step in the operation of the sensor device is signal conversion. ( )
- 51 Smart games are used to make playing games more fun. ( )
- 52 In Scratch, we use the coordinates (x, y) to determine the location of a point on the stage. ( )
- 53 Scratch does not allow changing the language of the interface. ( )
- 54 The control unit processes the data collected by the sensors and issues commands to the motors. ( )
- 55 The Stop command is used to watch the project execution. ( )
- 56 Sensors work by capturing information, then converting it into electrical signals. ( )
- 57 To be able to move the object, we use the Motion Blocks from the Area Blocks. ( )
- 58 The value of a variable cannot be changed during the execution of a program. ( )
- 59 To modify the name of the sprite, click on its current name and rename it. ( )
- 60 Instant translator is used to facilitate communication between people. ( )
- 61 The "Sprite" in Scratch refers to the background of the project. ( )
- 62 In Scratch, the name of the sprite can be changed multiple times. ( )
- 63 An ultrasonic sensor is used for non-contact temperature measurement. ( )
- 64 City = "Cairo", the data type of the variable City is a string. ( )
- 65 The position of the object on the platform is determined only by the value of the horizontal axis X. ( )
- 66 The areas of use of robots include industry, healthcare, and education. ( )





- 67 The sprite cannot be deleted from the stage. ( )
- 68 Distance sensors help robots avoid collisions. ( )
- 69 In Scratch, the horizontal and vertical axes are used to determine the current position of the sprite on the stage. ( )
- 70 Robots do not need to use software to operate. ( )
- 71 The direction of the object's movement can be changed by pressing the word Direction. ( )
- 72 TAHER, Taher, taheR, TaheR are 4 variables names for variables in Python. ( )
- 73 Laser rangefinders are less accurate than ultrasonic sensors. ( )
- 74 A new background is inserted to the project through the programming area. ( )
- 75 The smart lighting system in the home uses sensors to turn on the lights automatically when someone enters the room. ( )
- 76 The object's name can be modified only once. ( )
- 77 When installing Python, you need to choose between 64bit or 32bit, based on your device specifications. ( )
- 78 Vision sensors are used to capture sounds. ( )
- 79 Variables in programming languages are reserved places in memory to store and hold a specific value. ( )
- 80 Smart shopping gives you suggestions for products you might like. ( )
- 81 In the Scratch program, the stage area displays the code blocks. ( )
- 82 The text editor allows you to write longer and more complex codes and save them to run later. ( )
- 83 Infrared sensors are not used in consumer electronics. ( )
- 84 Scratch can be downloaded for free from its official website. ( )
- 85 The object can be deleted from the stage. ( )
- 86 Robots rely on direct energy sources only and we cannot use batteries or solar cells. ( )
- 87 Only one object can be added to the stage. ( )
- 88 Touch screens rely on sensors to detect where a finger touches the screen. ( )
- 89 The sprites used in the project appear in the Sprites area. ( )
- 90 General artificial intelligence focuses on performing a specific task. ( )
- 91 Scratch program is considered a difficult educational tool to use. ( )
- 92 The "pen down" block makes the pen start drawing. ( )





- 93 To modify the object's name, press its current name and rename it. ( )
- 94 Robots use communication tools to interact with users or other robots. ( )
- 95 Robots are very good at doing a lot of things with great accuracy ( )
- 96 Visual Studio is an example of a text editor used for Python programming. ( )
- 97 Robots do not need to use software in their work. ( )
- 98 Python is a versatile language used in game programming. ( )
- 99 In the Scratch program, the student needs to write a lot of complex codes. ( )

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## Second Term Questions Bank







### Question 01

### choose the correct Answer

- 1 ..... are used to avoid obstacles.  
 (a) Light sensors (b) Sound sensors (c) Distance sensors (d) Heat sensors
- 2 To execute the project, click on the icon .....  
 (a)  (b)  (c)  (d) 
- 3 One of the advantages of Python is that it .....  
 (a) Open source (b) Closed source (c) Not free (d) Limited use
- 4 The string value of a variable is placed between the marks ....  
 (a) " " (b) <> (c) >= (d) <=
- 5 ..... artificial intelligence can solve problems that are difficult for humans to solve easily and discover new things we never imagined before.  
 (a) Narrow (b) General (c) Super (d) Precise
- 6 In the Scratch program, the result of the work or project appears in the.....  
 (a) Script area (b) Stage area (c) Area Blocks (d) Sprites area
- 7 Python translates code line by line, which means it is .....  
 (a) complex language (b) Closed source (c) interpreted language (d) Not integrated
- 9 The "Go to random position" command is found in the ..... group.  
 (a) Motion (b) Sound (c) Control (d) Events
- 10 One of the Common applications of sensors is the use of infrared in.....  
 (a) 3D scanning (b) Remote controls (c) Vacuum cleaners (d) Smartphones
- 11 In Python, variable names can begin with .....  
 (a) underscore (b) letters (c) numbers (d) both a and b










- 12 The official website of Python is .....  
 (a) [www.python.ad](http://www.python.ad) (b) [www.app.org](http://www.app.org) (c) [www.python.org](http://www.python.org) (d) [www.python.edu](http://www.python.edu)
- 13 ..... robot is an example of a home robot.  
 (a) Industrial (b) Medical (c) [Roomba](#) (d) Educational
- 14 The variable names "Taher", "TAHER", and "taher" refer to ..... variable(s).  
 (a) the same (b) [different](#) (c) invalid (d) reserved
- 15 To stop the execution of the project, click on the icon .....  
 (a)  (b)  (c)  (d) 
- 16 ..... is a library widely used in data science, statistics, and artificial intelligence.  
 (a) Pandas (b) Matplotlib (c) [NumPy](#) (d) Angular
- 17 Decimal variables in Python are stored as ..... data types.  
 (a) string (b) int (c) Boolean (d) [float](#)
- 18 The "Pen" extension is added by clicking on .....  
 (a) Choose Sprite (b) [Add Extension](#) (c) Delete Sprite (d) Change Backdrop
- 19 The function ..... is used to display text or values on the output screen.  
 (a) Cos( ) (b) Type( ) (c) [Print\( \)](#) (d) Sin( )
- 20 ..... like Siri or Alexa use artificial intelligence to understand and execute your commands.  
 (a) [Personal assistant](#) (b) Instant translator (c) Smart shopping (d) Natural language
- 21 To draw a geometric shape, you need to set the ..... points of the lines.  
 (a) random (b) middle (c) [start and end](#) (d) none of them
- 22 Strings in Python are placed between .....  
 (a) ' ' (b) " " (c) [both a and b](#) (d) none of them
- 23 To determine the data type of a variable, we use the function .....  
 (a) Cos( ) (b) [Type\( \)](#) (c) Print( ) (d) Sin( )
- 24 If the movement is too fast, the command ..... from Control Blocks is used.  
 (a) [Wait](#) (b) Repeat (c) Forever (d) Else





- 25 Boolean variables in Python can have ..... value(s).  
 (a) one (b) two (c) three (d) four
- 26 The first step in the operation of a sensor is .....  
 (a) sensing (b) displaying (c) transmitting (d) transduction
- 27 Python is widely used in .....  
 (a) data science (b) machine learning (c) web development (d) all of them
- 28 The "When  Clicked" command is found in the ..... group.  
 (a) Sound (b) Motion (c) Control (d) Events
- 29 Python variables are .....  
 (a) reserved (b) invalid (c) case-sensitive (d) case-insensitive
- 30 ..... is a type of AI that focuses on performing specific tasks.  
 (a) Narrow AI (b) General AI (c) Super AI (d) None of them
- 31 To execute the project's steps, use the command ..... embedded at the beginning of the code segment.  
 (a)  (b)  (c)  (d) 
- 32 Python translates programming codes .....  
 (a) all at once (b) in batches (c) line by line (d) none of them
- 33 A robot is a device that can be programmed to perform tasks .....  
 (a) manually (b) randomly (c) automatically (d) none of them
- 34 Python is ..... for beginners.  
 (a) difficult (b) easy (c) complex (d) outdated
- 35 To add a new object, press on .....  
 (a) Start (b) Stop (c) Area Blocks (d) Choose Sprite
- 36 Python can be integrated with .....  
 (a) C (b) C++ (c) Java (d) all of them
- 37 A power source for robots is the .....  
 (a) sensors (b) motors (c) batteries (d) software





- 38 To display text, variables, or even the results of arithmetic operations, we use the function .....
- (a) Cos ( ) (b) Type ( ) (c) Print ( ) (d) Sin ( )
- 39 Python is known for its .....
- (a) versatility (b) limiting (c) complexity (d) high cost
- 40 Deep learning mainly relies on .....
- (a) neural networks (b) databases (c) robotics (d) language models
- 41 Python has libraries for .....
- (a) data analysis (b) graph creation (c) both a and b (d) none of them
- 42 A new background for the project is inserted by pressing .....
- (a) Script Area (b) Stage (c) Choose Sprite (d) Choose a Backdrop
- 43 NumPy library is used in .....
- (a) data analysis (b) data science (c) web development (d) none of them
- 44 Pandas is a library for .....
- (a) creating graphs (b) data analyzing (c) machine learning (d) none of them
- 47 Robots can move, sense, and interact with their surroundings using .....
- (a) sensors (b) motors (c) controllers (d) all of them
- 48 Python libraries provide .....
- (a) complex codes (b) limited functions (c) pre-built codes (d) none of them
- 49 Matplotlib library is used for .....
- (a) creating graphs (b) data analysis (c) web development (d) none of them
- 50 Personal assistants, such as ....., understand your commands and perform them.
- (a) Siri (b) Alexa (c) Scratch (d) both a and b
- 51 The file extension for Scratch project is .....
- (a) Sb3 (b) bmp (c) Jpg (d) exe





- 52 When you make a Scratch project, to move the sprite, use the ..... command group.  
 (a) Looks (b) Motion (c) Events (d) Control
- 53 ..... is/are considered the "brain" of the robot.  
 (a) Sensors (b) Motors (c) The structure (d) The controller
- 54 An example of educational robots is .....  
 (a) Roomba (b) Zoomba (c) LEGO Mindstorms (d) all of them
- 55 In Scratch, to repeat the sprite's movement, we use the .....  
 (a) Start (b) Stop (c) Command Blocks Area (d) Choose Sprite
- 56 To take pictures and videos, we use ..... sensors.  
 (a) sound (b) touch (c) light (d) motion
- 57 The "Wait" command is found in the ..... blocks.  
 (a) Motion (b) Looks (c) Events (d) Control
- 58 The main part that carries all components of a robot is the .....  
 (a) sensors (b) motors (c) structure (d) controller
- 59 To make the movement continuous, you can install the "move" command ..... time(s).  
 (a) one (b) several (c) zero (d) none of them
- 60 ..... sites use AI to suggest products based on your purchasing behavior.  
 (a) Smart games (b) Smart shopping (c) Digital doctors (d) Instant translator
- 61 In Scratch program, to add sound effect to the sprite, use the command .....  
 (a) Repeate (b) Looks (c) Play sound (d) Choose a Backdrop
- 62 ..... is a tool that helps you create models to recognize images, sounds, and movements.  
 (a) Google Drive (b) Microsoft Edge (c) Teachable Machine (d) Alexa
- 63 To save a project, choose "Save to your computer" from the ..... menu.  
 (a) File (b) Edit (c) View (d) Help
- 64 ..... sensors are used for non-contact temperature measurement.  
 (a) Ultrasonic (b) Infrared (c) Light (d) Motion





- 65 In Scratch, to start drawing with the pen, use the ..... block.  
 (a) pen up (b) pen down (c) set pen color (d) none of them
- 66 Scratch uses ..... to create programs.  
 (a) command-lines (b) visual blocks (c) text-based (d) audio files
- 67 The "Pen" extension is used to .....  
 (a) move sprites (b) draw shapes (c) play sounds (d) change the background
- 68 ..... make(s) the robot smart, including algorithms to respond to information.  
 (a) A controller (b) Software (c) Motors (d) Sensors
- 69 X=0 represents the ..... axis. a. b. c. d.  
 (a) horizontal (b) vertical (c) diagonal (d) none of them
- 70 ..... is a field of AI that involves learning from mistakes.  
 (a) Machine Learning (b) Smart shopping (c) Computer Vision (d) Robotics
- 71 In Scratch, to stop drawing with the pen, use the ..... block.  
 (a) pen up (b) pen down (c) set pen color (d) none of them
- 72 An example of a communication tool used by robots is .....  
 (a) sensors (b) Wi-Fi (c) Bluetooth (d) both b and c
- 73 The "Sprite" in Scratch represents a/an .....  
 (a) object (b) file menu (c) background (d) command block
- 74 ..... is a field of AI that enables computers to interpret visual information.  
 (a) Robotics (b) Computer Vision (c) Deep Learning (d) Machine Learning
- 75 ..... sensors help cars determine the distance to other vehicles.  
 (a) Sound (b) Light (c) Infrared (d) Distance
- 76 ..... sensors are commonly used in remote controls.  
 (a) Ultrasonic (b) Infrared (c) Light (d) Motion
- 77 The ..... contains the objects used in the project.  
 (a) Menu Bar (b) Script Area (c) Command Blocks Area (d) Sprites Area





- 78 Medical robots are known for their .....  
 (a) cleaning (b) accuracy (c) speed (d) entertainment
- 79 The Sprites Area in Scratch contains .....  
 (a) Extentions (b) sprites (c) sounds (d) blocks
- 80 Laser rangefinders are accurate because they use .....  
 (a) sound waves (b) visible light (c) infrared waves (d) laser beams

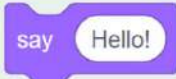
Question 02

put ( √ ) or ( × )

- |    |   |   |
|----|---|---|
| 1  | Medical robots help doctors performing surgeries.   | ✓ |
| 2  | Scratch is a paid program.  | ✗ |
| 3  | Python is used in data science and machine learning.  | ✓ |
| 4  | Artificial intelligence is used only in the video game industry.                                  | ✗ |
| 5  | In the Scratch program, a code segment is a combination of commands arranged in a specific order. | ✓ |
| 6  | Sensors are not used in smartphones.  | ✗ |
| 7  | Artificial intelligence can assist doctors in diagnosing diseases.                                | ✓ |
| 8  | Python is considered one of the most difficult programming languages.                             | ✗ |
| 9  | Scratch uses a visual interface based on blocks.  | ✓ |
| 10 | It is not possible to create applications and websites using Python.                              | ✗ |
| 11 | Visible light sensors help cars determine the distance to other vehicles.                         | ✓ |
| 12 | Python is considered an interpreted language because it translates code line by line.             | ✓ |
| 13 | Before executing any project, the coordinates of the object on the stage are X=10 and Y=10.       | ✗ |
| 14 | Python is considered a free and open-source language, which does not allow anyone to develop it.  | ✗ |
| 15 | The design of the structure affects the weight of the robot and its ability to move.              | ✓ |
| 16 | Artificial intelligence is only one type.   | ✗ |
| 17 | In the Wait command, the wait value of 1 represents ( 1 second).                                  | ✓ |
| 18 | One of the disadvantages of Python is the limited libraries that you can use.                     | ✗ |





- 19 The Scratch program helps the student learn the principles of programming. ✓
- 20 The robots' work is limited to factories only. ✗
- 21 Python is used in web application development, data science, artificial intelligence, machine learning, and game programming. ✓
- 22 In Python, when naming variables, reserved words can be used. ✗
- 23 The object's position on the stage is determined by the value of the horizontal axis X and the vertical axis Y. ✓
- 24 Narrow artificial intelligence can perform any task that a human can perform. ✗
- 25 To display Hello on the stage, select the  command Blocks. ✓
- 26 To determine the type of a variable, we do not need to use the type( ) function. ✗
- 27 Artificial intelligence is a branch of computer science. ✓
- 28 We use click and drag-and-drop to interact with any command (inside) the code segment. ✓
- 29 Matplotlib: is a library for data analysis and manipulation. ✗
- 30 In Python, the NumPy library is used in data science, statistics, and artificial intelligence. ✓
- 31 The cost of a sensor is not a significant factor when choosing the appropriate type. ✗
- 32 Python can be integrated with other languages such as C, C++, and Java. ✓
- 33 In the Scratch program, students face difficulties in sharing projects with others. ✗
- 34  $Y = 10$ , the data type of variable Y is an integer. ✓
- 35 Self-driving cars rely entirely on artificial intelligence. ✗
- 36 A variable name cannot start with a letter or ( \_ ) character. ✗
- 37 The Scratch program offers a wide range of ideas that can be programmed. ✓
- 38 To determine the type of a variable, you can use the Len() function. ✗
- 39 The motors used in robots include electric motors and pneumatic motors. ✓
- 40 The variable name can contain letters (A-Z), numbers, or the underscore \_ . ✓
- 41 Laser rangefinders are accurate because they use laser beams. ✓
- 42 The "Repeat" command is found in the Control group. ✓





- 43 To save your project, select Save to your computer from the File menu. ✓
- 44 Artificial intelligence can learn new things slowly. ✗
- 45 To make the movement continuous, you can assemble the command several times. ✓
- 46 Pandas is a library for data analysis and manipulation in Python. ✓
- 47 The position of the Sprite can be changed on the stage by double-clicking on it. ✗
- 48 Text value for variables are placed between single quotes ' ' or double quotes " ". ✓
- 49 (Is\_taher\_student = False), the data type of the variable (Is\_taher\_student) is Boolean. ✓
- 50 The first step in the operation of the sensor device is signal conversion. ✗
- 51 Smart games are used to make playing games more fun. ✓
- 52 In Scratch, we use the coordinates (x, y) to determine the location of a point on the stage. ✓
- 53 Scratch does not allow changing the language of the interface. ✗
- 54 The control unit processes the data collected by the sensors and issues commands to the motors. ✓
- 55 The Stop command is used to watch the project execution. ✗
- 56 Sensors work by capturing information, then converting it into electrical signals. ✓
- 57 To be able to move the object, we use the Motion Blocks from the Area Blocks. ✓
- 58 The value of a variable cannot be changed during the execution of a program. ✗
- 59 To modify the name of the sprite, click on its current name and rename it. ✓
- 60 Instant translator is used to facilitate communication between people. ✓
- 61 The "Sprite" in Scratch refers to the background of the project. ✗
- 62 In Scratch, the name of the sprite can be changed multiple times. ✓
- 63 An ultrasonic sensor is used for non-contact temperature measurement. ✗
- 64 City = "Cairo", the data type of the variable City is a string. ✓
- 65 The position of the object on the platform is determined only by the value of the horizontal axis X. ✗
- 66 The areas of use of robots include industry, healthcare, and education. ✓





- 67 The sprite cannot be deleted from the stage. ☐
- 68 Distance sensors help robots avoid collisions. ☒
- 69 In Scratch, the horizontal and vertical axes are used to determine the current position of the sprite on the stage. ☒
- 70 Robots do not need to use software to operate. ☐
- 71 The direction of the object's movement can be changed by pressing the word Direction. ☒
- 72 TAHER, Taher, taher, TaheR are 4 variables names for variables in Python. ☒
- 73 Laser rangefinders are less accurate than ultrasonic sensors. ☐
- 74 A new background is inserted to the project through the programming area. ☐
- 75 The smart lighting system in the home uses sensors to turn on the lights automatically when someone enters the room. ☒
- 76 The object's name can be modified only once. ☐
- 77 When installing Python, you need to choose between 64bit or 32bit, based on your device specifications. ☒
- 78 Vision sensors are used to capture sounds. ☐
- 79 Variables in programming languages are reserved places in memory to store and hold a specific value. ☒
- 80 Smart shopping gives you suggestions for products you might like. ☒
- 81 In the Scratch program, the stage area displays the code blocks. ☐
- 82 The text editor allows you to write longer and more complex codes and save them to run later. ☒
- 83 Infrared sensors are not used in consumer electronics. ☐
- 84 Scratch can be downloaded for free from its official website. ☒
- 85 The object can be deleted from the stage. ☒
- 86 Robots rely on direct energy sources only and we cannot use batteries or solar cells. ☐
- 87 Only one object can be added to the stage. ☐
- 88 Touch screens rely on sensors to detect where a finger touches the screen. ☒
- 89 The sprites used in the project appear in the Sprites area. ☒
- 90 General artificial intelligence focuses on performing a specific task. ☐
- 91 Scratch program is considered a difficult educational tool to use. ☐
- 92 The "pen down" block makes the pen start drawing. ☒





- 93 To modify the object's name, press its current name and rename it. ✓
- 94 Robots use communication tools to interact with users or other robots. ✓
- 95 Robots are very good at doing a lot of things with great accuracy ✓
- 96 Visual Studio is an example of a text editor used for Python programming. ✓
- 97 Robots do not need to use software in their work. ✗
- 98 Python is a versatile language used in game programming. ✓
- 99 In the Scratch program, the student needs to write a lot of complex codes. ✗

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حمل الآن

مجاناً وحصرياً

# المراجعة رقم (3)

## الترم الثاني





## Lesson 1 Questions: Artificial Intelligence Applications

### First: Put ( True ) or ( False ) :-

- 1- Artificial intelligence is only used in the video game industry . ( )
- 2- Artificial intelligence can help doctors diagnose diseases. ( )
- 3- Self-driving cars depend entirely on artificial intelligence. ( )
- 4- Artificial intelligence can learn new things slowly. ( )
- 5- Artificial intelligence is a science of computer science. ( )
- 6- For artificial intelligence to become intelligent, it needs small amounts of information. ( )
- 7- Artificial intelligence is only one type. ( )
- 8- Narrow artificial intelligence can perform any task that a human can perform ( )
- 9- General artificial intelligence is more advanced. ( )
- 10-General artificial intelligence focuses on performing a specific task. ( )
- 11-Super artificial intelligence can solve specific problems. ( )
- 12-Smart Games are used to make playing games more fun. ( )
- 13-Instant Translator is used to facilitate communication between people. ( )
- 14-Smart Shopping gives you suggestions for products you might like. ( )
- 15-Natural language processing is like a machine language translator. ( )
- 16-16.Robots are very good at doing a lot of things with great accuracy. ( )
- 17- There are many different types of artificial intelligence. ( )
- 18-18- A chess-playing robot can do any task you ask of it. ( )
- 19-A personal assistant uses artificial intelligence to understand and do your commands. ( )
- 20- Some video games use artificial intelligence to make the game more fun and challenging. ( )
- 21- Doctors use artificial intelligence to help them diagnose and treat diseases faster and more accurately. ( )
- 22-Artificial intelligence cannot translate words and sentences instantly. ( )



- 23-Artificial intelligence cannot look at a picture and tell you everything in it. ( )
- 24-Artificial intelligence can find your face in a crowded picture. ( )
- 25-Artificial intelligence has a mind similar to the human mind, it uses this mind to learn things very quickly, ( )
- 26-Machine learning is an easy-to-use tool that helps you create intelligent models to recognize images, sounds, and movements. ( )

**Second: Choose the correct answer from the following :-**

- 1- Artificial intelligence ..... can solve problems that are difficult for humans to solve easily and discover new things we never imagined before.
- A- Narrow                      B- General                      C- Super                      D- Precise
- 2- It like Siri or Alexa use artificial intelligence to understand and execute your commands.
- A- Personal assistant      B- Instant translator      C- Smart shopping D- Natural language
- 3- For Artificial intelligence ..... .
- A- Only one type              B- Only two types              C- Many types      D- None of the above
- 4- This type focuses on performing a specific task, such as facial recognition or language translation,
- A- General artificial intelligence                      B- Narrow artificial intelligence
- C- Super artificial intelligence                      D- All of the above
- 3- Examples of ..... artificial intelligence a robot that can play chess beautifully,
- A- General                      B- Narrow                      C- Super                      D- None of the above
- 4- ..... artificial intelligence can perform any task that a human can perform.
- A- General                      B- Narrow                      C- Super                      D- None of the above
- 5- It is a type of artificial intelligence that is considered the most advanced.

- A- General Ai                      B- Narrow Ai                      C- Super Ai      D- None of the above



6- It talks to you, answers your questions, and performs tasks like your friend.

A- Siri                      B- Alexa                      C- Both                      D- None of the above

7- Applications of artificial intelligence in daily life ....

A- Smart games      B- Smart cars                      C- Digital doctors      D- All of the above

8- It has a mind similar to the human mind, he uses this mind to learn things very quickly,

A- Machine language      B- Virtual reality      C- Artificial intelligence      D- Augmented reality

9-..... Learning is based mainly on Netural Networks and Deep Learning.

A- Simple                      B- Deep                      C- Programming      D- None of the above

10- it can work with great accuracy even in environments that are dangerous to humans

A- Robots                      B- Computer                      C- Programmer      D- None of the above

\*\*\*\*\*

## Lesson 2 Questions : Seneors

**First: Put ( True ) or ( False ) :-**

- 1- Sensors are the eyes and ears of machines. (      )
- 2- Sensors are only used by robots. (      )
- 3- Sensors translate light only into a language that computers understand. (      )
- 4- Sensors capture information from the surrounding environment (such as heat, light, sound). (      )
- 5- Sensors convert the captured information into light signals that can be read by electronic devices. (      )
- 6- Sensors are the senses of a robot. (      )
- 7- Light sensors measure distances between robots. (      )
- 8- Light sensors help a robot avoid collisions. (      )
- 9- Motion sensors are used in robots that react to sounds. (      )
- 10- Motion sensors help a robot navigate and interact with surrounding objects. (      )



- 11- Ultrasonic sensors emit high-frequency waves, then receive the waves returning after they bounce off an object, to measure the time and then calculate the distance to the object. ( )
- 12- Laser sensors can be used to measure the level of fluids in tanks and reactors. ( )
- 13- It is difficult to inspect products and identify industrial errors using sensors. ( )
- 14- Infrared rays can be used to communicate with electronic devices. ( )
- 15- Infrared sensors are used to measure body temperature without the need for direct contact. ( )
- 16- Time-of-flight sensors depend on measuring the time it takes for a light pulse to reach an object and return to it. ( )
- 17- Time-of-life sensors are criticized for their low accuracy. ( )
- 18- Motion tracking systems are used in video games and virtual reality systems. ( )

**Second: Choose the correct answer from the following :-**

1. The main function of the sensor is .....

- A. Store data      B. Capture environmental changes and convert them into signals  
C. Display images      D. Produce sound

2. Sensors help robots to.....

- A. Teach them new languages      B. Allow them to interact with their environment  
C. Increase their size      D. Slow down their operations

3. A type of sensor ..... is used to avoid obstacles.

- A. Light sensors      B. Sound sensors  
C. Distance sensors      D. Heat sensors

4. The first step in the operation of the sensor is .....

- A. Transmitting      B. Displaying  
C. Sensing      D. Transduction

5. .... are commonly used in remote controls.

- A. Ultrasonic sensors      B. Infrared sensors  
C. Light sensors      D. Motion sensors



6. Laser rangefinders are accurate because they use .....

- A. Sound waves
- B. Visible light
- C. High frequency waves
- D. Laser beams

7. A common application of sensors is the use of infrared in .....

- A. Smartphones
- B. Remote controls
- C. Vacuum cleaners
- D. 3D scanning

8. In which environment are light sensors useful? .....

- A. In dark rooms
- B. In places with variable lighting conditions
- C. In underwater environments
- D. In noisy factories

9. One of the sensors that are used to measure distance using high frequency sound waves is .....

- A. Ultrasonic sensors
- B. Laser rangefinders
- C. Infrared sensors
- D. Motion sensors

10. .... sensors are used to turn on lights when someone enters the room.

- A. Smartphone
- B. Smart car
- C. Smart Home Lighting System
- D. Smart Watch

11. .... is used for non-contact temperature measurement.

- A. Ultrasonic sensor
- B. Infrared sensor
- C. Light sensor
- D. Motion sensor

12. .... is the main purpose of the signal conversion step in sensors.

- A. Display the results
- B. Send the signals to another device
- C. Convert the information into electrical signals
- D. Turn off the sensor

13. .... helps cars determine the distance to other vehicles.

- A. Sound sensors
- B. Light sensors
- C. Infrared sensors
- D. Distance sensors

14. .... is the practical use of motion sensors in games.

- A. Change the volume
- B. Adjust the brightness of the screen
- C. Track the movements of players
- D. Improve the sound quality

15. Factors that determine the choice of a sensor for a particular application..... .



- A. Brand of the device  
B. Color of the device  
C. Environment and required accuracy  
D. Size of the device

16- Sensors work through ..... main steps.

- A- Three  
B- Four  
C- Five  
D- Only two steps

17- It uses sensors to avoid obstacles and clean under furniture.

- A- Vacuum cleaner robot  
B- Surgical robot  
C- Self-driving cars  
D- All of the above

18- It relies heavily on sensors to see the road and make decisions

- A- Vacuum cleaner robot  
B- Surgical robot  
C- Self-driving cars  
D- All of the above

19- It uses precise sensors to perform surgeries.

- A- Vacuum cleaner robot  
B- Surgical robot  
C- Self-driving cars  
D- All of the above

20- It helps in measuring the distance between the car and the surrounding obstacles.

- A- Vacuum cleaner robot  
B- Surgical robot  
C- Parking systems  
D- All of the above

21- It is used in creating 3D models of spaces.

- A- 3D laser scanners  
B- Ground scanning systems  
C- Industrial measurement systems  
D- Self-driving car cameras

22- It is used in geological and archaeological surveys.

- A- 3D Laser Scanners  
B- Ground Scanning Systems  
C- Industrial Measurement Systems  
D- Self-Driving Car Cameras



23- Used to measure dimensions with high accuracy in various industries.

A- 3D Laser Scanners

B- Ground Scanning Systems

C- Industrial Measurement Systems

D- Self-Driving Car Cameras

24- Used to determine the distance to other cars, pedestrians and traffic signals.

A- Self-Driving Car Cameras

B- Industrial Vision Systems

C- Augmented Reality Systems

D- Remote Controls

25- Used to inspect products and identify errors

A- Self-Driving Car Cameras

B- Industrial Vision Systems

C- Augmented Reality Systems

D- Remote Controls

26- Used to integrate digital elements with the real world.

A- Self-Driving Car Cameras

B- Industrial Vision Systems

C- Augmented Reality Systems

D- Remote Controls

27- It is a set of small sensors that sense where your finger touches the screen.

A- Microphone

B- Touch Screen

C- Camera

D- Speakers

### Lesson 3 Questions : Robots

#### First: Put ( True ) or ( False ) :-

1. Sensors do not play a role in the movement of robots and sensing their surrounding environment. ( )
2. Robots work is limited to factories only. ( )
3. Medical robots help doctors perform surgeries. ( )
4. The design of the structure affects the weight of the robot and its ability to move.( )
5. Vision sensors are used to capture sounds. ( )
6. The motors used in robots include electric motors and air motors. ( )
7. The control unit processes the data collected by the sensors and issues commands to the motors. ( )
8. Robots rely on direct energy sources only and we cannot use batteries or solar cells. ( )
9. Robots do not need to use software in their work. ( )
- 10.Robots use communication tools to interact with users or other robots. ( )
- 11.The areas of use of robots include industry, healthcare, and education. ( )
- 12- Robots can be used at home to clean floors. ( )
- 13- The robot uses sensors to capture information around it, and detects environmental changes and inputs. ( )
- 14- Motion sensors pick up and analyze sounds. ( )
- 15- Temperature sensors detect temperature levels in the environment. ( )
- 16- Motors are the artificial muscles of robots. ( )
- 17- Thanks to sensors, robots can move and execute commands. ( )
- 18- The controller processor makes the necessary decisions to move the robot. ( )
- 19- Software is what makes the robot "smart", ( )
- 20- Software includes the algorithms that determine how the robot responds to the information it receives from the sensors. ( )
- 21- Bluetooth is a communication tool for robots. ( )



- 22- Robots are used in industry to improve and enhance productivity and reduce human error. ( )
- 23- Robots can perform repetitive tasks accurately and without any delay. ( )
- 24- Robots assemble small parts with skill. ( )
- 25- Robots can dismantle bombs in dangerous environments. ( )
- 26- It is difficult for robots to perform various tasks As needed. ( )
- 27- The use of robots reduces the need for human labor. ( )
- 28- Robots encourage technological development and open new horizons in many fields such as space. ( )

**Second: Choose the correct answer from the following :-**

- 1- The challenges facing robotics technology include.....
- A- Increased reliance on paper documents.
  - B- Increased reliance on smartphones.
  - C- Safety, employment and ethics.
  - D- Increased reliance on traditional machines.
- 2- In production lines, robots can perform repetitive tasks accurately and without any delay, which leads to.....
- A- Increased efficiency and productivity.
  - B- Decreased efficiency and productivity.
  - C- Lack of product development.
  - D- Slow production process.
- 3- Robots help in dangerous tasks such as.....
- A- Transportation.
  - B- Handling heavy weights and hazardous chemicals.
  - C- Irrigating gardens and parks.
  - D- Cleaning the house

4- To take pictures and videos, we use sensors .....

A- Sound

B- Touch

C- Light

D- Vision

5- ..... is a device that can be programmed to perform a set of specific tasks automatically

A- Electric cars

B- Robots

C- Airplanes

D- Smartphones

6- The robot can .....

A- Move,

B- Feel (via sensors),

C- Interact with its surroundings

D- All of the above

7- Types of robots .....

A- Industrial robots

B- Home robots

C- Natural robots

D- All of the above

8- Examples of educational robots .....

A- LEGO Mindstorms

B- Roomba

C- Sophia

D- Spot

9- Examples of home robots .....

A- LEGO Mindstorms

B- Roomba

C- Sophia

D- Spot

10- It is the main part that carries all the components of the robot.

A- Structure

B- Sensors

C- Motors

D- Controller

11- They are the senses of the robot, just as we use our eyes to see and our ears to hear,

A- Structure

B- Sensors

C- Motors

D- Controller

12- They are used to move the parts of the robot,

A- Structure

B- Sensors

C- Motors

D- Controller

13- What are the different types of motors used in robots?



A- Electric motors

B- Pneumatic motors,

C- Steam motors

D- Both A and B

14- They are the "brains" of the robot and direct and manage the robot's operations.

A- Structure

B- Sensors

C- Motors

D- Controller

15- What are the types of power sources used with robots? .

A- Batteries

B- Solar cells

C- Direct energy

D- All of the above

16- Robots have become part of our daily lives and are used in several fields, such as:

A- Medicine,

B- Industry,

C- Education

D- All of the above

17- Despite the many benefits of robots, there are challenges facing this technology, such as:

A- Safety



B- Employment

C- Ethics

D- All of the above

## Lesson 4 Questions : Scratch

**First: Put ( True ) or ( False ) :-**

- 1- The Scratch program provides a very wide range of ideas that can be programmed.(T )
- 2- The Scratch program helps the student learn the principles of programming. ( )
- 3- The Scratch program is considered a difficult educational tool to use. ( )
- 4- The student in the Scratch program needs to write a lot of complex codes. ( )
- 5- Scratch uses a visual interface based on blocks. ( )
- 6- The Scratch program is paid. ( )
- 7- In the Scratch program, students face difficulty in sharing projects with others. ( )
- 8- In the Scratch program, the Stage area shows the programming sections. ( )
- 9- In the Scratch program, the result of the work or project appears in the Blocks area. ( )
- 10-To implement the project, click on the symbol  . ( )
- 11-To save your project, select Save to your computer from the File menu. ( )
- 12-The position of the Sprite can be changed on the stage by double-clicking on it.( )
- 13-To be able to move the object, we use the Motion Blocks from the Area Blocks.( )
- 14-To display Hello on the stage, select the command  from the Looks Blocks. ( )
- 15- Scratch helps learners develop their skills in creative thinking and problem solving. ( )
- 16-The language of the Scratch program interface cannot be changed to Arabic. ( )
- 17- The program section is a set of commands in a specific order. ( )
- 18- Click, drag and drop are used to deal with any command (within) the program section. ( )
- 19-To make the movement continuous, you can compose the command several times. ( )
- 20- The file extension for the Scratch program is MP3. ( )
- 21-We must specify the location of saving the file on one of the storage media when saving it with the Scratch program. ( )



**Second: Choose the correct answer from the following :-**

1- To execute the project, click on the icon.....



2- In the Scratch program, the result of the work or project appears in the .....

A- Script area.

B- Stage area.

C- Area Blocks.

D- Sprites area.

3- To stop the execution of the project, click on the icon .....



4- If the movement is too fast, the command ..... from Control Blocks is used.

A- Wait

B- Repeat

C- Forever

D- Else

5- It is a fun and easy-to-use educational tool that allows learning the basics of programming.

A- Visual Basic

B- Access

C- Scratch

D- HTML

6- The student learns the principles of programming in the Scratch program, including:

A- Games and animations

B- Accounting programs

C- Mobile programs

D- Databases

7- Scratch can be downloaded from its official website and used .....

A- At a cost

B- Free.

C- At a low cost

D- All of the above

8- All of the following are components of the Scratch program interface except .....

A- Menu bar

B- Script Area

C- Platform

D- Properties windows

9- It contains the objects used in the project

A- Script Area

B- Stage platform

C- command Blocks

D- Sprites area

10-In the Scratch program, the ... area appears where the programming sections appear.

A- Script

B- Stage

C- command Blocks

D- Menu bar

11-In Scratch program the result of the work or project appears on the ..... area.

A- Script

B- Stage

C- command Blocks

D- Menu bar

12-The default coordinate of the object at the beginning of the project is .....

A- X=0, Y=10

B- X=9, Y=10

C- X=0, Y=0

D- X=272, Y=215



13-The .... command is used to move the object.



14- The command is used to display the word Hello.



15- We find the  command in the .... group of the command group area.

A- Events Blocks

B- Looks

C- Motion

D- Control

16- We find the  command in the .... group of the command group area.

A- Events Blocks

B- Looks

C- Motion

D- Control

17-We find the  command in the group ..... from the command group area.

A- Events Blocks

B- Looks

C- Motion

D- Control

18- We find the  command in the group ..... from the command group area.

A- Events Blocks

B- Looks

C- Motion

D- Control

19-It is the composition of a group of commands in a specific order.

A- Sprite

B- code section

C- Platform

C- Coordinates

20-To save the project, we choose the Save command from the ..... menu.

A- File

B- Edit

C- View

D- Help

21-The file extension for the Scratch program is .....

A- MP3

B- MP4

C- RAR

D- Sb3



## Lesson 5 Questions : Sprites Area in Scratch

### First: Put ( True ) or ( False ) :-

- 1- The sprites used in the project appear in the Sprites area. ( )
- 2- The sprite name can be modified only once. ( )
- 3- The location of the sprite on the platform is determined by the value of the horizontal axis X only. ( )
- 4- The horizontal and vertical axis are used to know the current location of the sprite on the platform. ( )
- 5- To modify the name of the sprite, click on its current name and rename it. ( )
- 6- The direction of the sprite's movement can be changed by clicking on the word Direction. ( )
- 7- The sprite can be shown or hidden on the platform by clicking on Choose Sprite( )
- 8- The size of the sprite is changed by its value in the Sprites area. ( )
- 9- The sprite can be deleted from the platform. ( )
- 10-Only one sprite can be added to the platform. ( )
- 11-To add a new sprite, click on Choose Sprite. ( )
- 12-The Stop command is used to watch the project execution. ( )
- 13-A new background is inserted for the project through the programming area. ( )
- 14-The Start command is used to stop the project . ( )
- 15-We use the coordinates (x, y) to locate the point on the stage. ( )
- 16- In the Scratch program, a code segment is a combination of commands arranged in a specific order. ( )
- 17-Before executing any project, the coordinates of the object on the stage are X=10 and Y=10. ( )
- 18- In the Wait command, the wait value of 1 represents (1 second). ( )
- 19- The object's position on the stage is determined by the value of the horizontal axis X and the vertical axis Y. ( )
- 20- We use click and drag-and-drop to interact with any command (inside) the code segment. ( )
- 21-To make the movement continuous, you can assemble the command several times. ( )
- 22-Pen blocks can be added to the Blocks Area command group area. ( )





23- Pen color can be changed using the block

( )



24- Pen size can be changed using the block

( )

25-It is difficult to draw geometric shapes using the Scratch program.

( )

## Second: Choose the correct answer from the following :-

1- To add a new object, click on .....

A- Choose Sprite    B- Choose a Backdrop    C- Size    D- Sprite

2- To add a new background, click on .....

A- Choose Sprite    B- Choose a Backdrop    C- Size    D- Sprite

3- In Scratch, to repeat the sprite's movement, we use the.....

A- Start    B- Choose Sprite    C- Command Blocks Area    D- Stop

4- In Scratch program, to add sound effect to the sprite, use the command

A- Repeat    B- Looks    C- Play sound    D- Choose a Backdrop

5- ..... contains the objects used in the project,

A- Script Area    B- Stage area    C- Blocks Area    D- Sprites area

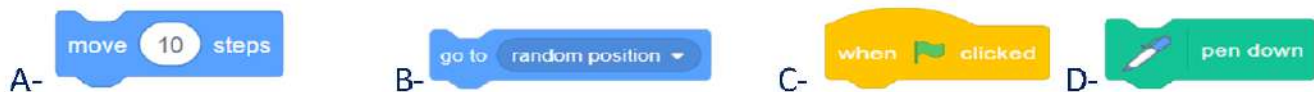
6- You can change the direction by changing the value of .....

A- Sprite    B- Direction    C- Show    D- Size

7- The object can be shown or hidden on the stage by clicking on .....

A- Sprite    B- Direction    C- Show    D- Size

8- To move the ball randomly on the platform we use the ..... brick.



9- To repeat the movement of the object 10 times we use the ..... brick.

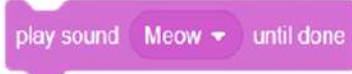







10- To make the object make a sound we use the ..... brick.

- A-  B-  C-  D- 

11- The ..... Brick makes the pen start drawing.

- A-  B-  C-  D- 

\*\*\*\*\*

## Lesson 6 Questions : Principles of Python

First: Put ( True ) or ( False ) :-

- 1- Python is a free and open-source language, which does not allow anyone to develop it. ( )
- 2- It is not permissible to create applications and websites in Python. ( )
- 3- Python uses data science and machine learning. ( )
- 4- Python is an interpreted language because it translates programming codes line by line. ( )
- 5- Python is used in developing web applications, data science, artificial intelligence, machine learning, and game programming. ( )
- 6- Python is one of the most difficult programming languages. ( )
- 7- Python can be integrated with other languages such as C, C++, and Java. ( )
- 8- One of the disadvantages of Python is the lack of libraries that you can use. ( )
- 9- NumPy: A library used in data science, statistics, and artificial intelligence. ( )
- 10- Pandas: A library for analyzing and processing data. ( )
- 11- When installing the Python language, you must choose 64-bit or 32-bit, depending on your device specifications. ( )
- 12- Matplotlib is a library for data analysis and processing. ( )
- 13- Libraries are considered one of the disadvantages of programming using Python, ( )



- 14- Python is characterized by the availability of many libraries that you can use. ( )
- 15- Libraries are considered a powerful tool that increases the efficiency and effectiveness of programming using Python, ( )
- 16- It is difficult to download the Python language from its official website. ( )

**Second: Choose the correct answer from the following :-**

- 1- One of the advantages of Python is that it is .....  
A- Open source                      B- Closed source                      C- Not free                      D- Limited use
- 2- Python translates code line by line, which means it is .....  
A- Complex language                      B- Interpreted language  
C- Closed source                      D- Incomplete
- 3- The official website of the Python language is .....  
A- www.python.org                      B- www.python.edu  
C- www.pythonlibr.adp                      D- www.application.org
- 4- ..... is a library widely used in data science, statistics, and artificial intelligence.  
A- Pandas                      B- Matplotlib                      C- NumPy                      D- Angular
- 5- A free and open source programming language that allows everyone to use and develop it.  
A- Python                      B- Visual Basic                      C- Visual C                      D- ASP
- 6- It means that it translates programming codes line by line,  
A- Interpreted language                      B- Open source  
C- Versatile                      D- Easy to use language
- 7- Python can be used to develop ....  
A- Web applications,                      B- Artificial intelligence,  
C- Machine learning,                      D- All of the above
- 8- Python can be used to develop ....  
A- Specific systems                      B- Multi-systems                      C- Windows only                      D- Android only
- 9- It is a set of pre-prepared codes and functions in Python.



A- Operating environment      B- Compilers      C- Libraries      D- Objects

10- Helps programmers perform specific tasks without having to write codes from scratch,

A- Operating environment      B- Compilers      C- Libraries      D- Objects

11- Provides ready-made solutions to many common problems or requirements.

A- Operating environment      B- Compilers      C- Libraries      D- Objects

12- A Python library widely used in data science, statistics and artificial intelligence.

A- NumPy      B- Pandas      C- Matplotlib      D- SciPy

13- A Python library for analyzing and processing data.

A- NumPy      B- Pandas      C- Matplotlib      D- SciPy

14- A Python library for creating graphs and charts.

A- NumPy      B- Pandas      C- Matplotlib      D- SciPy

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## Lesson 7 Questions : Principles of Python

**First: Put ( True ) or ( False ) :-**

1. Variables in programming languages are a reserved place in memory to store and save a specific value. ( )
2. The variable name must not begin with a letter or an underscore sign \_. ( )
3. TAHER, Taher, tahir, TaheR are 4 names for variables in the Python language. ( )
4. The change name contains letters (A-Z) or numbers or an underscore sign \_. ( )
5. When naming variables, reserved words in the Python language may be used. ( )
6. Y= 10 The statement type of the variable Y is numeric for an integer ( )
7. City = "Cairo" The statement type of the variable City is text. ( )
8. Is\_taher\_student = False The statement type of the variable Is\_taher\_student is logical.( )
9. To know the type of the variable, we do not need to use the type . ( )  
function. ( )
10. The texts of variables are placed between single quotation marks ' ' or double quotation marks " ". ( )



- 11- Variable names must be capitalized and lowercase when writing a variable name. ( )
- 12- Numeric types are used for comparisons and decision making in codes.( )

**Second: Choose the correct answer from the following :-**

1. The function ..... is used to display texts or values on the output screen
- A. B. Type( ).
- C. Print( ). D. Sin( ).
2. The text value of the variable is placed between the signs .....
- A. "" B. <>.
- C. >= D. =<.
3. To display texts, variables, or even the results of mathematical operations, we use the function .....
- A. Cos( ) B. Type( ).
- C. Print( ). D. Sin( ).
4. To know the type of the variable statement, we use the function .....
- A. Cos( ) B. Type( ).
- C. Print( ). D. Sin( ).
- 5- It expresses a reserved place in memory to store and save a specific value, and the value can change.
- A- Variables B- Constants
- C- Functions D- Procedures
- 6- Types of variables in Python .....
- A- Numbers B- Strings
- C- Booleans D- All of the above
- 7- It is used to store numerical values such as integers (int) and decimal numbers (float).
- A- Numbers B- Strings
- C- Booleans D- All of the above
- 8- It is used to store texts such as names and addresses.
- A- Numbers B- Strings



C- Booleans

D- All of the above

9- A data type that only contains two values True or False

A- Numbers

B- Strings

C- Booleans

D- All of the above

10- Often used in comparisons and decision making in codes

A- Numbers

B- Strings

C- Booleans

D- All of the above



## Lesson 1 Questions: Artificial Intelligence Applications

### First: Put ( True ) or ( False ) :-

- 1- Artificial intelligence is only used in the video game industry . (F )
- 2- Artificial intelligence can help doctors diagnose diseases. (T )
- 3- Self-driving cars depend entirely on artificial intelligence. (T )
- 4- Artificial intelligence can learn new things slowly. (F )
- 5- Artificial intelligence is a science of computer science. (T )
- 6- For artificial intelligence to become intelligent, it needs small amounts of information. (F )
- 7- Artificial intelligence is only one type. (F )
- 8- Narrow artificial intelligence can perform any task that a human can perform (F )
- 9- General artificial intelligence is more advanced. (T )
- 10-General artificial intelligence focuses on performing a specific task. (F )
- 11-Super artificial intelligence can solve specific problems. (F )
- 12-Smart Games are used to make playing games more fun. (T )
- 13-Instant Translator is used to facilitate communication between people. (T )
- 14-Smart Shopping gives you suggestions for products you might like. (T )
- 15-Natural language processing is like a machine language translator. (T )
- 16-16.Robots are very good at doing a lot of things with great accuracy. (T )
- 17- There are many different types of artificial intelligence. (T )
- 18-18- A chess-playing robot can do any task you ask of it. (F )
- 19-A personal assistant uses artificial intelligence to understand and do your commands. (T )
- 20- Some video games use artificial intelligence to make the game more fun and challenging. (T )
- 21- Doctors use artificial intelligence to help them diagnose and treat diseases faster and more accurately. (T )
- 22-Artificial intelligence cannot translate words and sentences instantly. (F )



- 23-Artificial intelligence cannot look at a picture and tell you everything in it. (F )
- 24-Artificial intelligence can find your face in a crowded picture. (T )
- 25-Artificial intelligence has a mind similar to the human mind, it uses this mind to learn things very quickly, (T )
- 26-Machine learning is an easy-to-use tool that helps you create intelligent models to recognize images, sounds, and movements. (T )

**Second: Choose the correct answer from the following :-**

- 1- Artificial intelligence ..... can solve problems that are difficult for humans to solve easily and discover new things we never imagined before.
- A- Narrow                      B- General                      C- Super                      D- Precise
- 2- It like Siri or Alexa use artificial intelligence to understand and execute your commands.
- A- Personal assistant                      B- Instant translator                      C- Smart shopping                      D- Natural language
- 3- For Artificial intelligence .....
- A- Only one type                      B- Only two types                      C- Many types                      D- None of the above
- 4- This type focuses on performing a specific task, such as facial recognition or language translation,
- A- General artificial intelligence                      B- Narrow artificial intelligence
- C- Super artificial intelligence                      D- All of the above
- 3- Examples of ..... artificial intelligence a robot that can play chess beautifully,
- A- General                      B- Narrow                      C- Super                      D- None of the above
- 4- ..... artificial intelligence can perform any task that a human can perform.
- A- General                      B- Narrow                      C- Super                      D- None of the above
- 5- It is a type of artificial intelligence that is considered the most advanced.

- A- General Ai                      B- Narrow Ai                      C- Super Ai                      D- None of the above



6- It talks to you, answers your questions, and performs tasks like your friend.

A- Siri                      B- Alexa                      C- Both                      D- None of the above

7- Applications of artificial intelligence in daily life ....

A- Smart games      B- Smart cars                      C- Digital doctors      D- All of the above

8- It has a mind similar to the human mind, he uses this mind to learn things very quickly,

A- Machine language      B- Virtual reality      C- Artificial intelligence      D- Augmented reality

9-..... Learning is based mainly on Netural Networks and Deep Learning.

A- Simple                      B- Deep                      C- Programming      D- None of the above

10- it can work with great accuracy even in environments that are dangerous to humans

A- Robots                      B- Computer                      C- Programmer      D- None of the above

\*\*\*\*\*

## Lesson 2 Questions : Seneors

**First: Put ( True ) or ( False ) :-**

- 1- Sensors are the eyes and ears of machines. (T )
- 2- Sensors are only used by robots. (F )
- 3- Sensors translate light only into a language that computers understand. (F )
- 4- Sensors capture information from the surrounding environment (such as heat, light, sound). (T )
- 5- Sensors convert the captured information into light signals that can be read by electronic devices. (F )
- 6- Sensors are the senses of a robot. (T )
- 7- Light sensors measure distances between robots. (F )
- 8- Light sensors help a robot avoid collisions. (F )
- 9- Motion sensors are used in robots that react to sounds. (F )
- 10- Motion sensors help a robot navigate and interact with surrounding objects. (T )



- 11- Ultrasonic sensors emit high-frequency waves, then receive the waves returning after they bounce off an object, to measure the time and then calculate the distance to the object. (T )
- 12- Laser sensors can be used to measure the level of fluids in tanks and reactors. (F )
- 13- It is difficult to inspect products and identify industrial errors using sensors. (F )
- 14- Infrared rays can be used to communicate with electronic devices. (T )
- 15- Infrared sensors are used to measure body temperature without the need for direct contact. (T )
- 16- Time-of-flight sensors depend on measuring the time it takes for a light pulse to reach an object and return to it. (T )
- 17- Time-of-life sensors are criticized for their low accuracy. (F )
- 18- Motion tracking systems are used in video games and virtual reality systems. (T )

**Second: Choose the correct answer from the following :-**

1. The main function of the sensor is .....

- A. Store data      B. Capture environmental changes and convert them into signals
- C. Display images      D. Produce sound

2. Sensors help robots to.....

- A. Teach them new languages      B. Allow them to interact with their environment
- C. Increase their size      D. Slow down their operations

3. A type of sensor ..... is used to avoid obstacles.

- A. Light sensors      B. Sound sensors
- C. Distance sensors      D. Heat sensors

4. The first step in the operation of the sensor is .....

- A. Transmitting      B. Displaying
- C. Sensing      D. Transduction

5. .... are commonly used in remote controls.

- A. Ultrasonic sensors      B. Infrared sensors
- C. Light sensors      D. Motion sensors



6. Laser rangefinders are accurate because they use .....

- A. Sound waves
- B. Visible light
- C. High frequency waves
- D. Laser beams

7. A common application of sensors is the use of infrared in .....

- A. Smartphones
- B. Remote controls
- C. Vacuum cleaners
- D. 3D scanning

8. In which environment are light sensors useful? .....

- A. In dark rooms
- B. In places with variable lighting conditions
- C. In underwater environments
- D. In noisy factories

9. One of the sensors that are used to measure distance using high frequency sound waves is .....

- A. Ultrasonic sensors
- B. Laser rangefinders
- C. Infrared sensors
- D. Motion sensors

10. .... sensors are used to turn on lights when someone enters the room.

- A. Smartphone
- B. Smart car
- C. Smart Home Lighting System
- D. Smart Watch

11. .... is used for non-contact temperature measurement.

- A. Ultrasonic sensor
- B. Infrared sensor
- C. Light sensor
- D. Motion sensor

12. .... is the main purpose of the signal conversion step in sensors.

- A. Display the results
- B. Send the signals to another device
- C. Convert the information into electrical signals
- D. Turn off the sensor

13. .... helps cars determine the distance to other vehicles.

- A. Sound sensors
- B. Light sensors
- C. Infrared sensors
- D. Distance sensors

14. .... is the practical use of motion sensors in games.

- A. Change the volume
- B. Adjust the brightness of the screen
- C. Track the movements of players
- D. Improve the sound quality

15. Factors that determine the choice of a sensor for a particular application.....



A. Brand of the device

B. Color of the device

C. Environment and required accuracy

D. Size of the device

16- Sensors work through ..... main steps.

A- Three

B- Four

C- Five

D- Only two steps

17- It uses sensors to avoid obstacles and clean under furniture.

A- Vacuum cleaner robot

B- Surgical robot

C- Self-driving cars

D- All of the above

18- It relies heavily on sensors to see the road and make decisions

A- Vacuum cleaner robot

B- Surgical robot

C- Self-driving cars

D- All of the above

19- It uses precise sensors to perform surgeries.

A- Vacuum cleaner robot

B- Surgical robot

C- Self-driving cars

D- All of the above

20- It helps in measuring the distance between the car and the surrounding obstacles.

A- Vacuum cleaner robot

B- Surgical robot

C- Parking systems

D- All of the above

21- It is used in creating 3D models of spaces.

A- 3D laser scanners

B- Ground scanning systems

C- Industrial measurement systems

D- Self-driving car cameras

22- It is used in geological and archaeological surveys.

A- 3D Laser Scanners

B- Ground Scanning Systems

C- Industrial Measurement Systems

D- Self-Driving Car Cameras



23- Used to measure dimensions with high accuracy in various industries.

A- 3D Laser Scanners

B- Ground Scanning Systems

C- Industrial Measurement Systems

D- Self-Driving Car Cameras

24- Used to determine the distance to other cars, pedestrians and traffic signals.

A- Self-Driving Car Cameras

B- Industrial Vision Systems

C- Augmented Reality Systems

D- Remote Controls

25- Used to inspect products and identify errors

A- Self-Driving Car Cameras

B- Industrial Vision Systems

C- Augmented Reality Systems

D- Remote Controls

26- Used to integrate digital elements with the real world.

A- Self-Driving Car Cameras

B- Industrial Vision Systems

C- Augmented Reality Systems

D- Remote Controls

27- It is a set of small sensors that sense where your finger touches the screen.

A- Microphone

B- Touch Screen

C- Camera

D- Speakers



### Lesson 3 Questions : Robots

#### First: Put ( True ) or ( False ) :-

1. Sensors do not play a role in the movement of robots and sensing their surrounding environment. (F )
2. Robots work is limited to factories only. (F )
3. Medical robots help doctors perform surgeries. (T )
4. The design of the structure affects the weight of the robot and its ability to move.(T )
5. Vision sensors are used to capture sounds. (F )
6. The motors used in robots include electric motors and air motors. (T )
7. The control unit processes the data collected by the sensors and issues commands to the motors. (T )
8. Robots rely on direct energy sources only and we cannot use batteries or solar cells. (F )
9. Robots do not need to use software in their work. (F )
- 10.Robots use communication tools to interact with users or other robots. (T )
- 11.The areas of use of robots include industry, healthcare, and education. (T )
- 12- Robots can be used at home to clean floors. (T )
- 13- The robot uses sensors to capture information around it, and detects environmental changes and inputs. (T )
- 14- Motion sensors pick up and analyze sounds. (F )
- 15- Temperature sensors detect temperature levels in the environment. (T )
- 16- Motors are the artificial muscles of robots. (T )
- 17- Thanks to sensors, robots can move and execute commands. (F )
- 18- The controller processor makes the necessary decisions to move the robot. (T )
- 19- Software is what makes the robot "smart", (T )
- 20- Software includes the algorithms that determine how the robot responds to the information it receives from the sensors. (T )
- 21- Bluetooth is a communication tool for robots. (T )



- 22- Robots are used in industry to improve and enhance productivity and reduce human error. (T )
- 23- Robots can perform repetitive tasks accurately and without any delay. (T )
- 24- Robots assemble small parts with skill. (T )
- 25- Robots can dismantle bombs in dangerous environments. (T )
- 26- It is difficult for robots to perform various tasks As needed. (F )
- 27- The use of robots reduces the need for human labor. (T )
- 28- Robots encourage technological development and open new horizons in many fields such as space. (T )

**Second: Choose the correct answer from the following :-**

1- The challenges facing robotics technology include.....

- A- Increased reliance on paper documents.
- B- Increased reliance on smartphones.
- C- Safety, employment and ethics.
- D- Increased reliance on traditional machines.

2- In production lines, robots can perform repetitive tasks accurately and without any delay, which leads to.....

- A- Increased efficiency and productivity.
- B- Decreased efficiency and productivity.
- C- Lack of product development.
- D- Slow production process.

3- Robots help in dangerous tasks such as.....

- A- Transportation.
- B- Handling heavy weights and hazardous chemicals.
- C- Irrigating gardens and parks.
- D- Cleaning the house



4- To take pictures and videos, we use sensors .....

A- Sound

B- Touch

C- Light

D- Vision

5- ..... is a device that can be programmed to perform a set of specific tasks automatically

A- Electric cars

B- Robots

C- Airplanes

D- Smartphones

6- The robot can .....

A- Move,

B- Feel (via sensors),

C- Interact with its surroundings

D- All of the above

7- Types of robots .....

A- Industrial robots

B- Home robots

C- Natural robots

D- All of the above

8- Examples of educational robots .....

A- LEGO Mindstorms

B- Roomba

C- Sophia

D- Spot

9- Examples of home robots .....

A- LEGO Mindstorms

B- Roomba

C- Sophia

D- Spot

10- It is the main part that carries all the components of the robot.

A- Structure

B- Sensors

C- Motors

D- Controller

11- They are the senses of the robot, just as we use our eyes to see and our ears to hear,

A- Structure

B- Sensors

C- Motors

D- Controller

12- They are used to move the parts of the robot,

A- Structure

B- Sensors

C- Motors

D- Controller

13- What are the different types of motors used in robots?



A- Electric motors

B- Pneumatic motors,

C- Steam motors

D- Both A and B

14- They are the "brains" of the robot and direct and manage the robot's operations.

A- Structure

B- Sensors

C- Motors

D- Controller

15- What are the types of power sources used with robots? .

A- Batteries

B- Solar cells

C- Direct energy

D- All of the above

16- Robots have become part of our daily lives and are used in several fields, such as:

A- Medicine,

B- Industry,

C- Education

D- All of the above

17- Despite the many benefits of robots, there are challenges facing this technology, such as:

A- Safety

B- Employment



C- Ethics

D- All of the above



## Lesson 4 Questions : Scratch

### First: Put ( True ) or ( False ) :-

- 1- The Scratch program provides a very wide range of ideas that can be programmed.(T )
- 2- The Scratch program helps the student learn the principles of programming. (T )
- 3- The Scratch program is considered a difficult educational tool to use. (F )
- 4- The student in the Scratch program needs to write a lot of complex codes. (F )
- 5- Scratch uses a visual interface based on blocks. (T )
- 6- The Scratch program is paid. (F )
- 7- In the Scratch program, students face difficulty in sharing projects with others. (F )
- 8- In the Scratch program, the Stage area shows the programming sections. (F )
- 9- In the Scratch program, the result of the work or project appears in the Blocks area. (F )
- 10-To implement the project, click on the symbol  . (T )
- 11-To save your project, select Save to your computer from the File menu. (T )
- 12-The position of the Sprite can be changed on the stage by double-clicking on it.(F )
- 13-To be able to move the object, we use the Motion Blocks from the Area Blocks.(T )
- 14-To display Hello on the stage, select the command  from the Looks Blocks. (T )
- 15- Scratch helps learners develop their skills in creative thinking and problem solving. (T )
- 16-The language of the Scratch program interface cannot be changed to Arabic. (F )
- 17- The program section is a set of commands in a specific order. (T )
- 18- Click, drag and drop are used to deal with any command (within) the program section. (T )
- 19-To make the movement continuous, you can compose the command several times. (T )
- 20- The file extension for the Scratch program is MP3. (F )
- 21-We must specify the location of saving the file on one of the storage media when saving it with the Scratch program. (T )



**Second: Choose the correct answer from the following :-**

1- To execute the project, click on the icon.....



2- In the Scratch program, the result of the work or project appears in the .....

A- Script area.

B- Stage area.

C- Area Blocks.

D- Sprites area.

3- To stop the execution of the project, click on the icon .....



4- If the movement is too fast, the command ..... from Control Blocks is used.

A- Wait

B- Repeat

C- Forever

D- Else

5- It is a fun and easy-to-use educational tool that allows learning the basics of programming.

A- Visual Basic

B- Access

C- Scratch

D- HTML

6- The student learns the principles of programming in the Scratch program, including:

A- Games and animations

B- Accounting programs

C- Mobile programs

D- Databases

7- Scratch can be downloaded from its official website and used .....

A- At a cost

B- Free.

C- At a low cost

D- All of the above

8- All of the following are components of the Scratch program interface except .....

A- Menu bar

B- Script Area

C- Platform

D- Properties windows

9- It contains the objects used in the project

A- Script Area

B- Stage platform

C- command Blocks

D- Sprites area

10-In the Scratch program, the ... area appears where the programming sections appear.

A- Script

B- Stage

C- command Blocks

D- Menu bar

11-In Scratch program the result of the work or project appears on the ..... area.

A- Script

B- Stage

C- command Blocks

D- Menu bar

12-The default coordinate of the object at the beginning of the project is .....

A- X=0, Y=10

B- X=9, Y=10

C- X=0, Y=0

D- X=272, Y=215



13-The .... command is used to move the object.

- A-  B-  C-  D- 

14- The command is used to display the word Hello.

- A-  B-  C-  D- 

15- We find the  command in the .... group of the command group area.

- A- Events Blocks B- Looks C- Motion D- Control

16- We find the  command in the .... group of the command group area.

- A- Events Blocks B- Looks C- Motion D- Control

17-We find the  command in the group ..... from the command group area.

- A- Events Blocks B- Looks C- Motion D- Control

18- We find the  command in the group ..... from the command group area.

- A- Events Blocks B- Looks C- Motion D- Control

19-It is the composition of a group of commands in a specific order.

- A- Sprite B- code section C- Platform C- Coordinates

20-To save the project, we choose the Save command from the ..... menu.

- A- File B- Edit C- View D- Help

21-The file extension for the Scratch program is .....

- A- MP3 B- MP4 C- RAR D- Sb3

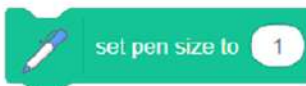


## Lesson 5 Questions : Sprites Area in Scratch

### First: Put ( True ) or ( False ) :-

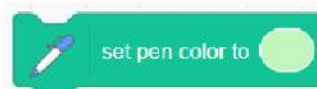
- 1- The sprites used in the project appear in the Sprites area. (T )
- 2- The sprite name can be modified only once. (F )
- 3- The location of the sprite on the platform is determined by the value of the horizontal axis X only. (F )
- 4- The horizontal and vertical axis are used to know the current location of the sprite on the platform. (T )
- 5- To modify the name of the sprite, click on its current name and rename it. (T )
- 6- The direction of the sprite's movement can be changed by clicking on the word Direction. (T )
- 7- The sprite can be shown or hidden on the platform by clicking on Choose Sprite (F )
- 8- The size of the sprite is changed by its value in the Sprites area. (T )
- 9- The sprite can be deleted from the platform. (T )
- 10- Only one sprite can be added to the platform. (F )
- 11- To add a new sprite, click on Choose Sprite. (T )
- 12- The Stop command is used to watch the project execution. (F )
- 13- A new background is inserted for the project through the programming area. (F )
- 14- The Start command is used to stop the project. (F )
- 15- We use the coordinates (x, y) to locate the point on the stage. (T )
- 16- In the Scratch program, a code segment is a combination of commands arranged in a specific order. (T )
- 17- Before executing any project, the coordinates of the object on the stage are X=10 and Y=10. (F )
- 18- In the Wait command, the wait value of 1 represents (1 second). (T )
- 19- The object's position on the stage is determined by the value of the horizontal axis X and the vertical axis Y. (T )
- 20- We use click and drag-and-drop to interact with any command (inside) the code segment. (T )
- 21- To make the movement continuous, you can assemble the command several times. (T )
- 22- Pen blocks can be added to the Blocks Area command group area. (T )





23- Pen color can be changed using the block

(F )



24- Pen size can be changed using the block

(F )

25-It is difficult to draw geometric shapes using the Scratch program.

(F )

## Second: Choose the correct answer from the following :-

1- To add a new object, click on .....

A- Choose Sprite    B- Choose a Backdrop    C- Size    D- Sprite

2- To add a new background, click on .....

A- Choose Sprite    B- Choose a Backdrop    C- Size    D- Sprite

3- In Scratch, to repeat the sprite's movement, we use the.....

A- Start    B- Choose Sprite    C- Command Blocks Area    D- Stop

4- In Scratch program, to add sound effect to the sprite, use the command

A- Repeat    B- Looks    C- Play sound    D- Choose a Backdrop

5- ..... contains the objects used in the project,

A- Script Area    B- Stage area    C- Blocks Area    D- Sprites area

6- You can change the direction by changing the value of .....

A- Sprite    B- Direction    C- Show    D- Size

7- The object can be shown or hidden on the stage by clicking on .....

A- Sprite    B- Direction    C- Show    D- Size

8- To move the ball randomly on the platform we use the ..... brick.



9- To repeat the movement of the object 10 times we use the ..... brick.

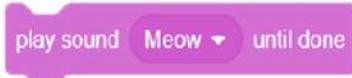
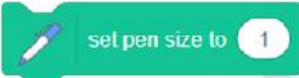






10- To make the object make a sound we use the ..... brick.

- A-  B-  C-  D- 

11- The ..... Brick makes the pen start drawing.

- A-  B-  C-  D- 

\*\*\*\*\*

## Lesson 6 Questions : Principles of Python

First: Put ( True ) or ( False ) :-

- 1- Python is a free and open-source language, which does not allow anyone to develop it. (F )
- 2- It is not permissible to create applications and websites in Python. (F )
- 3- Python uses data science and machine learning. (T )
- 4- Python is an interpreted language because it translates programming codes line by line. (T )
- 5- Python is used in developing web applications, data science, artificial intelligence, machine learning, and game programming. (T )
- 6- Python is one of the most difficult programming languages. (F )
- 7- Python can be integrated with other languages such as C, C++, and Java. (T )
- 8- One of the disadvantages of Python is the lack of libraries that you can use. (F )
- 9- NumPy: A library used in data science, statistics, and artificial intelligence. (T )
- 10- Pandas: A library for analyzing and processing data. (T )
- 11- When installing the Python language, you must choose 64-bit or 32-bit, depending on your device specifications. (T )
- 12- Matplotlib is a library for data analysis and processing. (F )
- 13- Libraries are considered one of the disadvantages of programming using Python, (F )



- 14- Python is characterized by the availability of many libraries that you can use. (T )
- 15- Libraries are considered a powerful tool that increases the efficiency and effectiveness of programming using Python, (T )
- 16- It is difficult to download the Python language from its official website. (F )

**Second: Choose the correct answer from the following :-**

- 1- One of the advantages of Python is that it is .....  
A- Open source                      B- Closed source                      C- Not free                      D- Limited use
- 2- Python translates code line by line, which means it is .....  
A- Complex language                      B- Interpreted language  
C- Closed source                      D- Incomplete
- 3- The official website of the Python language is .....  
A- www.python.org                      B- www.python.edu  
C- www.pythonlibr.adp                      D- www.application.org
- 4- ..... is a library widely used in data science, statistics, and artificial intelligence.  
A- Pandas                      B- Matplotlib                      C- NumPy                      D- Angular
- 5- A free and open source programming language that allows everyone to use and develop it.  
A- Python                      B- Visual Basic                      C- Visual C                      D- ASP
- 6- It means that it translates programming codes line by line,  
A- Interpreted language                      B- Open source  
C- Versatile                      D- Easy to use language
- 7- Python can be used to develop ....  
A- Web applications,                      B- Artificial intelligence,  
C- Machine learning,                      D- All of the above
- 8- Python can be used to develop ....  
A- Specific systems                      B- Multi-systems                      C- Windows only                      D- Android only
- 9- It is a set of pre-prepared codes and functions in Python.



A- Operating environment      B- Compilers      C- Libraries      D- Objects

10- Helps programmers perform specific tasks without having to write codes from scratch,

A- Operating environment      B- Compilers      C- Libraries      D- Objects

11- Provides ready-made solutions to many common problems or requirements.

A- Operating environment      B- Compilers      C- Libraries      D- Objects

12- A Python library widely used in data science, statistics and artificial intelligence.

A- NumPy      B- Pandas      C- Matplotlib      D- SciPy

13- A Python library for analyzing and processing data.

A- NumPy      B- Pandas      C- Matplotlib      D- SciPy

14- A Python library for creating graphs and charts.

A- NumPy      B- Pandas      C- Matplotlib      D- SciPy

\*\*\*\*\*

## Lesson 7 Questions : Principles of Python

**First: Put ( True ) or ( False ) :-**

- Variables in programming languages are a reserved place in memory to store and save a specific value. (T )
- The variable name must not begin with a letter or an underscore sign \_. (F )
- TAHER, Taher, tahir, TaheR are 4 names for variables in the Python language. (T )
- The change name contains letters (A-Z) or numbers or an underscore sign \_. (T )
- When naming variables, reserved words in the Python language may be used. (F )
- Y= 10 The statement type of the variable Y is numeric for an integer (T )
- City = "Cairo" The statement type of the variable City is text. (T )
- Is\_taher\_student = False The statement type of the variable Is\_taher\_student is logical.(T )
- To know the type of the variable, we do not need to use the type . (F )  
function. (T )
- The texts of variables are placed between single quotation marks ' ' or double quotation marks " ". (T )



- 11- Variable names must be capitalized and lowercase when writing a variable name. (T )
- 12- Numeric types are used for comparisons and decision making in codes.(F )

**Second: Choose the correct answer from the following :-**

1. The function ..... is used to display texts or values on the output screen

- A. Print( ). B. Type( ).
- C. Print( ). D. Sin( ).

2. The text value of the variable is placed between the signs .....

- A. "" B. <>.
- C. >=. D. =<.

3. To display texts, variables, or even the results of mathematical operations, we use the function .....

- A. Cos( ) B. Type( ).
- C. Print( ). D. Sin( ).

4. To know the type of the variable statement, we use the function .....

- A. Cos( ) B. Type( ).
- C. Print( ). D. Sin( ).

5- It expresses a reserved place in memory to store and save a specific value, and the value can change.

- A- Variables B- Constants
- C- Functions D- Procedures

6- Types of variables in Python .....

- A- Numbers B- Strings
- C- Booleans D- All of the above

7- It is used to store numerical values such as integers (int) and decimal numbers (float).

- A- Numbers B- Strings
- C- Booleans D- All of the above

8- It is used to store texts such as names and addresses.

- A- Numbers B- Strings



C- Booleans

D- All of the above

9- A data type that only contains two values True or False

A- Numbers

B- Strings

C- Booleans

D- All of the above

10- Often used in comparisons and decision making in codes

A- Numbers

B- Strings

C- Booleans

D- All of the above



حمل الآن

مجاناً وحصرياً

# المراجعة رقم (4)

## الترم الثاني





## Q1: Choose the correct answer from a, b, c, or d.

1. .... is a type of artificial intelligence that focuses on one specific task.
  - a. General AI
  - b. Super AI
  - c. Personal AI
  - d. Narrow AI
2. .... use artificial intelligence to make the game more fun and challenging.
  - a. Smart cars
  - b. Smart games
  - c. Digital numbers
  - d. Instant translator
3. Which of the following is an application of AI in daily life?
  - a. Writing with a pen
  - b. Traditional cars
  - c. Smart cars
  - d. All of them
4. .... is one of the roles performed by personal assistants like Siri and Alexa.
  - a. Performing surgeries
  - b. Understanding our commands
  - c. Creating computer programs
  - d. Teaching languages
5. "....." is the main goal of deep learning.
  - a. Performing specific tasks without learning
  - b. Simulating human learning through neural networks
  - c. Performing only mathematical calculations
  - d. Translating written texts
6. Machine learning helps to .....
  - a. reducing the system's ability to adapt
  - b. enabling systems to learn from data and improve their performance
  - c. interacting with sound only
  - d. operating robots only



7. .... is used in instant translation.
- Natural Language Processing
  - Computer Vision
  - Expert Systems
  - Deep Learning only
8. **Sensors are .....**
- devices used to decorate robots.
  - devices that sense changes in the environment and convert them into signals.
  - devices used to operate electrical appliances.
  - devices used to store data.
9. In robots, sensors help to .....
- powering robots
  - give robots mobility
  - enable robots to understand and interact with their environment
  - store information collected by the robot
10. .... **is not an example of a sensor.**
- Temperature sensor
  - Light sensor
  - Electric motor
  - Sound sensor
11. .... **is the first step in the work of the sensor.**
- Sending signals to another device
  - Converting signals into electrical signals
  - Making a decision based on the sensed information
  - Sensing changes in the environment
12. **Ultrasonic sensors are used in vacuum cleaner robots for .....**
- determining the color of objects
  - measuring room temperature
  - determining the distance between the robot and obstacles
  - controlling the suction power
13. **The main function of the sensor is .....**
- store data
  - capture environmental changes and convert them into signals
  - display images
  - produce sound





14. **Sensors help robots to .....**

- a. teach them new languages
- b. allow them to interact with their environment
- c. increase their size
- d. slow down their operations

15. **..... is a type of sensor used to avoid obstacles.**

- a. Light sensors
- b. Sound sensors
- c. Distance sensors
- d. Heat sensors

16. **The first step in the operation of the sensor is .....**

- a. Transmission
- b. displaying
- c. sensing
- d. signal conversion

17. **..... are commonly used in remote controls.**

- a. Ultrasonic sensors
- b. Infrared sensors
- c. Light sensors
- d. Motion sensors

18. **Laser rangefinders are accurate because they use .....**

- a. sound waves
- b. visible light
- c. high frequency waves
- d. laser beams

19. **A common application of sensors is the use of infrared in .....**

- a. smartphones
- b. vacuum cleaners
- c. 3D scanning
- d. motion detection



20. **In which environment are light sensors useful?**
- a. In dark rooms
  - b. In places with variable lighting conditions
  - c. In underwater environments
  - d. In noisy factories
21. **One of the sensors that are used to measure distance using high frequency sound waves is .....**
- a. ultrasonic sensors
  - b. laser rangefinders
  - c. infrared sensors
  - d. motion sensors
22. **..... sensors are used to turn on lights when someone enters the room.**
- a. Smartphone
  - b. Smart car
  - c. Smart Home Lighting System
  - d. Smart watch
23. **..... is used for non-contact temperature measurement.**
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  - c. Light sensor
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24. **..... is the main purpose of the signal conversion step in sensors.**
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  - b. Send the signals to another device
  - c. Convert the information into electrical signals
  - d. Turn off the sensor
25. **..... helps cars determine the distance to other vehicles.**
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  - b. Light sensors
  - c. Infrared sensors
  - d. Distance sensors





26. .... is the practical use of motion sensors in games.
- Change the volume
  - Adjust the brightness of the screen
  - Track the movements of players
  - Improve the sound quality
27. **Factors that determine the choice of a sensor for a particular application .....**
- Brand of the device
  - Color of the device
  - Environment and required accuracy
  - Size of the device
28. .... include algorithms that determine how the robot responds to information it receives from sensors.
- Structures
  - Software
  - Engines
  - Communication tools
29. **Communication tools include .....**
- Bluetooth
  - Wi-Fi
  - both a & b
  - none of them
30. .... are components of the robot.
- Structure
  - Software
  - Motors
  - All of them
31. **One of the areas of use of robots in ..... is to provide interactive experiences for students.**
- industry
  - health care
  - education
  - agriculture



32. **The challenges of robotics technology are .....**
- a. security
  - b. employment
  - c. ethics
  - d. all of them
33. **The challenges facing robotics technology include .....**
- a. Increased reliance on paper documents.
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  - b. Handling heavy weights and hazardous chemicals.
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  - d. Cleaning the house.
36. **To take pictures and videos, we use ..... sensors.**
- a. Sound
  - b. Touch
  - c. Light
  - d. Vision
37. **..... is the main goal of the Scratch program.**
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  - b. Teaching the basics of programming in a visual and fun way
  - c. Creating complex programs for professional programmers
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38. **..... is one of the advantages of the Scratch program.**
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  - b. Requires complex coding
  - c. Free and available for download
  - d. Focuses on advanced programming





39. .... is the primary function of blocks in Scratch.
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  - Organizing code
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  - Menu bar
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43. The Scratch program's interface language can be changed using .....
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  - Keyboard
  - Installing the program
  - The browser settings
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- X and Y axes
  - changing of direction
  - name change
  - using the Play sound brick
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  - Choose Sprite
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  - Repeat
  - Go to random position



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a. Moving the pen in a straight line  
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51. Python ..... increase the efficiency and effectiveness of programming using Python.  
a. graphs      b. charts      c. games      d. libraries
52. .... is a library for analyzing and processing data.  
a. Pandas      b. NumPy      c. Matplotlib      d. Mac
53. Python is a/an ..... language as it translates programming codes line by line.  
a. complex      b. interpreted      c. medical      d. industrial
54. Textual variables can store .....  
a. strings      b. boolean      c. numbers      d. none of the above
55. .... function is used to display text or values on the output screen.  
a. Type ( )      b. print ( )      c. Input ( )      d. output ( )
56. Through ..... the codes are written, saved and later executed.  
a. browser      b. text editor      c. photoshop      d. paint
57. The function “.....” is used to know the variable type.  
a. type ( )      b. print ( )      c. input ( )      d. output ( )
58. The text value of the variable is placed between the signs .....  
a. “”      b. <>      c. ==      d. \*\*





## Q2: Put (✓) or (X) for the following sentences.


- 1- An AI model can be trained using images directly from the camera. ( )
- 2- Machine learning enables AI to learn from mistakes and improve performance. ( )
- 3- Smart robots cannot work in environments that are dangerous to humans. ( )
- 4- General artificial intelligence is able to learn and adapt to new situations like humans. ( )
- 5- Artificial intelligence can be used in analyzing data to improve online shopping. ( )
- 6- Super AI focuses on one task. ( )
- 7- Personal assistants like Siri rely on artificial intelligence to understand our commands. ( )
- 8- Artificial intelligence is only used in the video game industry. ( )
- 9- Artificial intelligence can help doctors diagnose diseases. ( )
- 10- Self-driving cars depend entirely on artificial intelligence. ( )
- 11- Artificial intelligence can learn new things slowly. ( )
- 12- Artificial intelligence is a science of computer science. ( )
- 13- For artificial intelligence to become intelligent, it needs small amounts of information. ( )
- 14- Artificial intelligence is only one type. ( )
- 15- Narrow artificial intelligence can perform any tasks that a human can perform. ( )
- 16- General artificial intelligence is more advanced. ( )
- 17- General artificial intelligence focuses on performing a specific task. ( )
- 18- Super artificial intelligence can solve specific problems. ( )
- 19- Smart Games are used to make playing games more fun. ( )
- 20- Instant Translator is used to facilitate communication between people. ( )
- 21- Smart Shopping gives you suggestions for products you might like. ( )
- 22- Natural Language Processing is like a machine language translator. ( )
- 23- Robots are very good at doing a lot of things without great accuracy. ( )
- 24- Light sensors measure the distance between the robot and the obstacles around it. ( )
- 25- Motion sensors help the robot navigate and interact with surrounding objects. ( )



- 26- A self-driving car is an example of an electronic device in which sensors are used. ( )
- 27- Ultrasonic sensors emit low-frequency sound waves and then receive the return waves after bouncing off an object. ( )
- 28- Vacuum cleaner robots use sensors to locate furniture without colliding. ( )
- 29- A robot is a device that cannot be programmed to perform tasks automatically. ( )
- 30- Medical robots are used in schools to teach students how to code. ( )
- 31- The structure is the main part that holds all the components of the robot. ( )
- 32- Sensors are the senses of the robot. ( )
- 33- Robots rely on solar cells as a source of energy. ( )
- 34- The software is what makes the robot smart. ( )
- 35- Robots use communication tools to interact with users. ( )
- 36- The vacuum cleaner has sensors to avoid collisions with furniture. ( )
- 37- Robots cannot perform precise surgeries. ( )
- 38- Care and health are areas of robot use. ( )
- 39- Robots work is limited to factories only. ( )
- 40- Medical robots help doctors perform surgeries. ( )
- 41- The design of the structure affects the weight of the robot and its ability to move. ( )
- 42- Vision sensors are used to capture sounds. ( )
- 43- The motors used in robots include electric motors and air motors. ( )
- 44- The control unit processes the data collected by the sensors and issues commands to the motors. ( )
- 45- Robots rely on direct energy sources only and we cannot use batteries or solar cells. ( )
- 46- Robots do not need to use software in their work. ( )
- 47- Robots use communication tools to interact with users or other robots. ( )
- 48- The areas of use of robots include industry, healthcare, and education. ( )
- 49- The "wait" command is used to change the speed of command execution in Scratch. ( )
- 50- Sprites in the Scratch program appear in the Stage Area. ( )
- 51- X coordinates represent the horizontal movement of the object on the stage. ( )
- 52- The default file format for Scratch projects is ".exe". ( )
- 53- The interface language of the Scratch program can be changed to Arabic. ( )
- 54- Scratch helps develop creative thinking and problem-solving skills. ( )





- 55- The Stage area is used to assemble building blocks. ( )
- 56- The Scratch program provides a very wide range of ideas that can be programmed. ( )
- 57- The Scratch program helps the student learn the principles of programming. ( )
- 58- The Scratch program is considered a difficult educational tool to use. ( )
- 59- A student in the Scratch program needs to write a lot of complex codes. ( )
- 60- Scratch uses a visual interface based on blocks. ( )
- 61- The Scratch program is paid. ( )
- 62- In the Scratch program, students face difficulty in sharing projects with others. ( )
- 63- In the Scratch program, the Stage area shows the programming sections. ( )
- 64- In the Scratch program, the result of the work or project appears in the Area Blocks area. ( )
- 65- To implement the project, click on the symbol.  ( )
- 66- The default location of the sprite on the platform is (100, 80). ( )
- 67- The name of the object in the sprite area can be modified by clicking on it and renaming it. ( )
- 68- The "Go to random position" block is used to move the sprite to a random location. ( )
- 69- A new background can be added to the project via the Choose Sprite option. ( )
- 70- The Pen tool is used to draw geometric shapes in Scratch. ( )
- 71- A Sprite can be resized in the Sprites area. ( )
- 72- The "Play sound" block is used to hide the sprite from the stage. ( )
- 73- The sprites used in the project appear in the Sprites area. ( )
- 74- The sprite name can be modified only once. ( )
- 75- The location of the sprite on the platform is determined by the value of the horizontal axis X only. ( )
- 76- The horizontal and vertical axis are used to know the current location of the sprite on the platform. ( )
- 77- To modify the name of the sprite, click on its current name and rename it. ( )
- 78- The direction of the sprite's movement can be changed by clicking on the word Direction. ( )



- 79- The sprite can be shown or hidden on the platform by clicking on Choose Sprite. ( )
- 80- The size of the sprite is changed by its value in the Sprites area. ( )
- 81- The sprite can be deleted from the platform. ( )
- 82- Only one sprite can be added to the platform. ( )
- 83- To add a new sprite, click on Choose Sprite. ( )
- 84- The Stop command is used to watch the project execution. ( )
- 85- A new background is inserted for the project through the programming area. ( )
- 86- The Start command is used to stop the project. ( )
- 87- We use the coordinates (x, y) to locate the point on the stage. ( )
- 88- Thanks to Python libraries, programmers don't have to write codes for many tasks. ( )
- 89- Python is suitable for beginners because of its simple and tidy formula
- 90- Python libraries provide ready-made solutions to many problems. ( )
- 91- Pandas library is heavily used in data science, statistics and artificial intelligence. ( )
- 92- There is no library for data analysis and processing in Python. ( )
- 93- Python is a free and open-source language, which does not allow anyone to develop it. ( )
- 94- It is not permissible to create applications and websites in Python. ( )
- 95- Python uses data science and machine learning. ( )
- 96- Python is an interpreted language because it translates programming codes line by line. ( )
- 97- Python is used in developing web applications, data science, artificial intelligence, machine learning, and game programming. ( )
- 98- Python is one of the most difficult programming languages. ( )
- 99- Python can be integrated with other languages such as C, C++, and Java. ( )
- 100- One of the disadvantages of Python is the lack of libraries that you can use. ( )
- 101- NumPy is a library used in data science, statistics, and artificial intelligence. ( )
- 102- Pandas is a library for analyzing and processing data. ( )
- 103- A variable is an unreserved place to store fixed values that cannot be changed. ( )
- 104- When naming a variable you must start with a number. ( )
- 105- Variable values can be changed by code. ( )





- 106- Reserved words may be used in Python because they express certain values that the program understands. ( )
- 107- Boolean values take values (3 - 4 - 5). ( )
- 108- The use of uppercase and lowercase letters can be ignored when naming a variable. ( )
- 109- Variables in programming languages are a reserved place in memory to store and save a specific value. ( )
- 110- The variable name must not begin with a letter or an underscore sign `_`. ( )
- 111- TAHER, taher, Taher, taHer are 4 names for variables in the Python language. ( )
- 112- The change name contains letters (A-Z), numbers or an underscore sign `_`. ( )
- 113- When naming variables, reserved words in the Python language may be used. ( )
- 114- `Y=10` The statement type of the variable Y is numeric or an integer. ( )
- 115- `City = "Cairo"` The statement type of the variable City is text. ( )
- 116- `Is_taher_student = False` The statement type of the variable Is\_taher\_student is logical. ( )
- 117- To know the type of the variable, we do not need to use the type ( ) function. ( )
- 118- The texts of variables are placed between single quotation marks `' '` or double quotation marks `" "`. ( )

### Q3: Complete the following sentences

A- (Computer Vision - General AI - Natural Language Processing - Teachable Machine - Machine Learning)

1. .... is a type of artificial intelligence that can perform all tasks a human can do.
2. The ability of devices to understand written and spoken human language is ..... using artificial intelligence.
3. .... is a website used to create smart models for classifying images, sounds, and movements.
4. The technology that helps artificial intelligence recognize and analyze images is .....
5. A technology that makes artificial intelligence learn from mistakes to improve its performance is .....



**B- (Sensors - Signal conversion - Sensor - Ultrasonic sensor - Distance Sensor)**

1. A device that translates sensations such as heat, light, and sound into a language that a computer understands is .....
2. A type of device that uses sound waves to measure the distance to objects is .....
3. The process through which a sensor converts sensing information into electrical signals is the ..... step.
4. .... are considered the eyes and ears of machines.
5. .... measure the distance between the robot and surrounding obstacles

**c- (Motors - controller - software - robot - Educational)**

1. A ..... is a device that can be programmed to perform a set of specific tasks automatically.
2. .... robots are used in schools to teach students.
3. .... are used to move parts of a robot.
4. The ..... is the brain of the robot.

**D-(Command Block - Stage Area - Control Block - Script Area - Sb3)**

1. An area in the Scratch program where the blocks are assembled to form is called .....
2. The area in the Scratch program where the results of a project or action are shown is called .....
3. .... is the tool in Scratch that is used to delay the execution of commands for a specified period of time.
4. .... is the default file format (extension) in which a Scratch project is saved.
5. A set of code commands arranged in a specific order to perform specific tasks in a Scratch program is called .....





### **E- (sprites area - Direction - Repeat - Pen blocks - Go to random position)**

1. .... an area in the Scratch program that contains the sprites used in the project and is used to modify their properties.
2. .... is a command used to move the sprite to a random location on the platform.
3. .... is a tool from Add Extension that is used to draw geometric shapes.
4. .... block used to repeat a set of commands a specified number of times.
5. .... is a property that determines the direction in which the object moves on the stage.

### **F- (Programming – charts – robots – Versatility)**

1. .... is one of the features of Python.
2. Python is one of the easiest ..... languages.
3. Matplotlib is a library for creating graphs and .....

### **G-Download Python from the official website and arrange the following steps in the correct order.**

1. You must choose 64bit or 32bit, depending on your device specifications. (.....)
2. Visit the official Python website [www.python.org](http://www.python.org). (.....)
3. Choose the system you are working on (Windows, Mac, or Linux). (.....)
4. After downloading, install the program on your device and follow the instructions. (.....)
5. Choose “Downloads”. (.....)

### **H-(interactive Python interface – underscore – strings – Booleans)**

1. .... are a type of variable that takes values true or false.
2. The ..... is installed when Python is installed.
3. The variable name begins with a letter or an .....



## Q1: Choose the correct answer from a, b, c, or d.

1. .... is a type of artificial intelligence that focuses on one specific task.
  - a. General AI
  - b. Super AI
  - c. Personal AI
  - d. **Narrow AI**
2. .... use artificial intelligence to make the game more fun and challenging.
  - a. Smart cars
  - b. **Smart games**
  - c. Digital numbers
  - d. Instant translator
3. Which of the following is an application of AI in daily life?
  - a. Writing with a pen
  - b. Traditional cars
  - c. **Smart cars**
  - d. All of them
4. .... is one of the roles performed by personal assistants like Siri and Alexa.
  - a. Performing surgeries
  - b. **Understanding our commands**
  - c. Creating computer programs
  - d. Teaching languages
5. "....." is the main goal of deep learning.
  - a. Performing specific tasks without learning
  - b. **Simulating human learning through neural networks**
  - c. Performing only mathematical calculations
  - d. Translating written texts
6. Machine learning helps to .....
  - a. reducing the system's ability to adapt





- b. enabling systems to learn from data and improve their performance
  - c. interacting with sound only
  - d. operating robots only
7. .... is used in instant translation.
- a. Natural Language Processing
  - b. Computer Vision
  - c. Expert Systems
  - d. Deep Learning only
8. **Sensors are .....**
- a. devices used to decorate robots.
  - b. devices that sense changes in the environment and convert them into signals.
  - c. devices used to operate electrical appliances.
  - d. devices used to store data.
9. In robots, sensors help to .....
- a. powering robots
  - b. give robots mobility
  - c. enable robots to understand and interact with their environment
  - d. store information collected by the robot
10. .... is not an example of a sensor.
- a. Temperature sensor
  - b. Light sensor
  - c. Electric motor
  - d. Sound sensor
11. .... is the first step in the work of the sensor.
- a. Sending signals to another device
  - b. Converting signals into electrical signals
  - c. Making a decision based on the sensed information
  - d. Sensing changes in the environment
12. **Ultrasonic sensors are used in vacuum cleaner robots for .....**
- a. determining the color of objects
  - b. measuring room temperature
  - c. determining the distance between the robot and obstacles
  - d. controlling the suction power



13. The main function of the sensor is .....
- a. store data
  - b. capture environmental changes and convert them into signals
  - c. display images
  - d. produce sound
14. Sensors help robots to .....
- a. teach them new languages
  - b. allow them to interact with their environment
  - c. increase their size
  - d. slow down their operations
15. .... is a type of sensor used to avoid obstacles.
- a. Light sensors
  - b. Sound sensors
  - c. Distance sensors
  - d. Heat sensors
16. The first step in the operation of the sensor is .....
- a. Transmission
  - b. displaying
  - c. sensing
  - d. signal conversion
17. .... are commonly used in remote controls.
- a. Ultrasonic sensors
  - b. Infrared sensors
  - c. Light sensors
  - d. Motion sensors
18. Laser rangefinders are accurate because they use .....
- a. sound waves
  - b. visible light
  - c. high frequency waves
  - d. laser beams





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  - b. vacuum cleaners
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  - c. **education**
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  - b. employment
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  - d. **all of them**
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  - b. Touch
  - c. Light
  - d. **Vision**



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  - c. Creating complex programs for professional programmers
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  - b. Requires complex coding
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a. Java      b. C++      c. **both (a) and (b)**      d. HTML
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a. complex      b. **interpreted**      c. medical      d. industrial
54. Textual variables can store .....  
a. **strings**      b. boolean      c. numbers      d. none of the above
55. .... function is used to display text or values on the output screen.  
a. Type ( )      b. **print ( )**      c. Input ( )      d. output ( )



56. Through ..... the codes are written, saved and later executed.  
a. browser      b. text editor      c. photoshop      d. paint
57. The function “.....” is used to know the variable type.  
a. type ( )      b. print ( )      c. input ( )      d. output ( )
58. The text value of the variable is placed between the signs .....  
a. “”      b. <>      c. ==      d. \*\*

## Q2: Put (✓) or (X) for the following sentences.

- 1- An AI model can be trained using images directly from the camera. ( T )
- 2- Machine learning enables AI to learn from mistakes and improve performance. ( T )
- 3- Smart robots cannot work in environments that are dangerous to humans. ( F )
- 4- General artificial intelligence is able to learn and adapt to new situations like humans. ( T )
- 5- Artificial intelligence can be used in analyzing data to improve online shopping. ( T )
- 6- Super AI focuses on one task. ( F )
- 7- Personal assistants like Siri rely on artificial intelligence to understand our commands. ( T )
- 8- Artificial intelligence is only used in the video game industry. ( F )
- 9- Artificial intelligence can help doctors diagnose diseases. ( T )
- 10- Self-driving cars depend entirely on artificial intelligence. ( T )
- 11- Artificial intelligence can learn new things slowly. ( F )
- 12- Artificial intelligence is a science of computer science. ( T )
- 13- For artificial intelligence to become intelligent, it needs small amounts of information. ( F )
- 14- Artificial intelligence is only one type. ( F )
- 15- Narrow artificial intelligence can perform any tasks that a human can perform. ( F )
- 16- General artificial intelligence is more advanced. ( T )
- 17- General artificial intelligence focuses on performing a specific task. ( F )
- 18- Super artificial intelligence can solve specific problems. ( F )
- 19- Smart Games are used to make playing games more fun. ( T )
- 20- Instant Translator is used to facilitate communication between people. ( T )
- 21- Smart Shopping gives you suggestions for products you might like. ( T )
- 22- Natural Language Processing is like a machine language translator. ( T )





- 23- Robots are very good at doing a lot of things without great accuracy. (F )
- 24- Light sensors measure the distance between the robot and the obstacles around it. (F )
- 25- Motion sensors help the robot navigate and interact with surrounding objects. (T )
- 26- A self-driving car is an example of an electronic device in which sensors are used. ( T)
- 27- Ultrasonic sensors emit low-frequency sound waves and then receive the return waves after bouncing off an object. (F )
- 28- Vacuum cleaner robots use sensors to locate furniture without colliding. (T )
- 29- A robot is a device that cannot be programmed to perform tasks automatically. (F)
- 30- Medical robots are used in schools to teach students how to code. ( F)
- 31- The structure is the main part that holds all the components of the robot. (T )
- 32- Sensors are the senses of the robot. (T )
- 33- Robots rely on solar cells as a source of energy. (T )
- 34- The software is what makes the robot smart. (T )
- 35- Robots use communication tools to interact with users. (T )
- 36- The vacuum cleaner has sensors to avoid collisions with furniture. (T )
- 37- Robots cannot perform precise surgeries. (F )
- 38- Care and health are areas of robot use. ( T)
- 39- Robots work is limited to factories only. ( F)
- 40- Medical robots help doctors perform surgeries. (T )
- 41- The design of the structure affects the weight of the robot and its ability to move. ( T)
- 42- Vision sensors are used to capture sounds. (F )
- 43- The motors used in robots include electric motors and air motors. (T )
- 44- The control unit processes the data collected by the sensors and issues commands to the motors. ( T)
- 45- Robots rely on direct energy sources only and we cannot use batteries or solar cells. (F )
- 46- Robots do not need to use software in their work. ( F)
- 47- Robots use communication tools to interact with users or other robots. ( T)
- 48- The areas of use of robots include industry, healthcare, and education. (T )
- 49- The "wait" command is used to change the speed of command execution in Scratch. ( T)



- 50- Sprites in the Scratch program appear in the Stage Area. (T )
- 51- X coordinates represent the horizontal movement of the object on the stage. (T )
- 52- The default file format for Scratch projects is ".exe". ( F )
- 53- The interface language of the Scratch program can be changed to Arabic. (T )
- 54- Scratch helps develop creative thinking and problem-solving skills. (T )
- 55- The Stage area is used to assemble building blocks. (F )
- 56- The Scratch program provides a very wide range of ideas that can be programmed. (T )
- 57- The Scratch program helps the student learn the principles of programming. (T )
- 58- The Scratch program is considered a difficult educational tool to use. (F )
- 59- A student in the Scratch program needs to write a lot of complex codes. ( F )
- 60- Scratch uses a visual interface based on blocks. (T )
- 61- The Scratch program is paid. ( F )
- 62- In the Scratch program, students face difficulty in sharing projects with others. ( F )
- 63- In the Scratch program, the Stage area shows the programming sections. ( F )
- 64- In the Scratch program, the result of the work or project appears in the Area Blocks area. ( F )
- 65- To implement the project, click on the symbol. (T )
- 66- The default location of the sprite on the platform is (100, 80). (F )
- 67- The name of the object in the sprite area can be modified by clicking on it and renaming it. (T )
- 68- The "Go to random position" block is used to move the sprite to a random location. ( T )
- 69- A new background can be added to the project via the Choose Sprite option. ( F )
- 70- The Pen tool is used to draw geometric shapes in Scratch. ( T )
- 71- A Sprite can be resized in the Sprites area. (T )
- 72- The "Play sound" block is used to hide the sprite from the stage. ( F )
- 73- The sprites used in the project appear in the Sprites area. (T )
- 74- The sprite name can be modified only once. (F )
- 75- The location of the sprite on the platform is determined by the value of the horizontal axis X only. (F )





- 76- The horizontal and vertical axis are used to know the current location of the sprite on the platform. ( T )
- 77- To modify the name of the sprite, click on its current name and rename it. ( T )
- 78- The direction of the sprite's movement can be changed by clicking on the word Direction. ( T )
- 79- The sprite can be shown or hidden on the platform by clicking on Choose Sprite. ( F )
- 80- The size of the sprite is changed by its value in the Sprites area. ( T )
- 81- The sprite can be deleted from the platform. ( T )
- 82- Only one sprite can be added to the platform. ( F )
- 83- To add a new sprite, click on Choose Sprite. ( T )
- 84- The Stop command is used to watch the project execution. ( F )
- 85- A new background is inserted for the project through the programming area. ( F )
- 86- The Start command is used to stop the project. ( F )
- 87- We use the coordinates (x, y) to locate the point on the stage. ( T )
- 88- Thanks to Python libraries, programmers don't have to write codes for many tasks. ( T )
- 89- Python is suitable for beginners because of its simple and tidy formula ( T )
- 90- Python libraries provide ready-made solutions to many problems. ( T )
- 91- Pandas library is heavily used in data science, statistics and artificial intelligence. ( F )
- 92- There is no library for data analysis and processing in Python. ( F )
- 93- Python is a free and open-source language, which does not allow anyone to develop it. ( F )
- 94- It is not permissible to create applications and websites in Python. ( F )
- 95- Python used in data science and machine learning. ( T )
- 96- Python is an interpreted language because it translates programming codes line by line. ( T )
- 97- Python is used in developing web applications, data science, artificial intelligence, machine learning, and game programming. ( T )
- 98- Python is one of the most difficult programming languages. ( F )
- 99- Python can be integrated with other languages such as C, C++, and Java. ( T )
- 100- One of the disadvantages of Python is the lack of libraries that you can use. ( F )
- 101- NumPy is a library used in data science, statistics, and artificial intelligence. ( T )



- 102- Pandas is a library for analyzing and processing data. (T )
- 103- A variable is an unreserved place to store fixed values that cannot be changed. (F)
- 104- When naming a variable you must start with a number. (F )
- 105- Variable values can be changed by code. (T )
- 106- Reserved words may be used in Python because they express certain values that the program understands. (F )
- 107- Boolean values take values (3 - 4 - 5). (F )
- 108- The use of uppercase and lowercase letters can be ignored when naming a variable. (F )
- 109- Variables in programming languages are a reserved place in memory to store and save a specific value. (T )
- 110- The variable name must not begin with a letter or an underscore sign \_. ( F)
- 111- TAHER, taher, Taher, taHer are 4 names for variables in the Python language. (T )
- 112- The change name contains letters (A-Z), numbers or an underscore sign \_. (T )
- 113- When naming variables, reserved words in the Python language may be used. (F)
- 114- Y=10 The statement type of the variable Y is numeric or an integer. (T )
- 115- City = "Cairo" The statement type of the variable City is text. ( T)
- 116- Is\_taher\_student = False The statement type of the variable Is\_taher\_student is logical. ( T)
- 117- To know the type of the variable, we do not need to use the type ( ) function. (F )
- 118- The texts of variables are placed between single quotation marks ' ' or double quotation marks " ". (T )





### Q3: Complete the following sentences

A- (Computer Vision - General AI - Natural Language Processing - Teachable Machine - Machine Learning)

1. **...General AI.....** is a type of artificial intelligence that can perform all tasks a human can do.
2. The ability of devices to understand written and spoken human language is **...Natural language processing.....** using artificial intelligence.
3. **....teachable machine.....** is a website used to create smart models for classifying images, sounds, and movements.
4. The technology that helps artificial intelligence recognize and analyze images is **...Computer vision.....**
5. A technology that makes artificial intelligence learn from mistakes to improve its performance is **.....Machine learning.....**

B- (Sensors - Signal conversion - Sensor - Ultrasonic sensor - Distance Sensor)

1. A device that translates sensations such as heat, light, and sound into a language that a computer understands is **.....Sensor.....**
2. A type of device that uses sound waves to measure the distance to objects is **.....Ultrasonic sensor.....**
3. The process through which a sensor converts sensing information into electrical signals is the **.....signal conversion.....** step.
4. **...Sensors.....** are considered the eyes and ears of machines.
5. **.....Distance sensor.....** measure the distance between the robot and surrounding obstacles

c- (Motors - controller - software - robot - Educational)

1. A **....Robot.....** is a device that can be programmed to perform a set of specific tasks automatically.
2. **.....Educational.....** robots are used in schools to teach students.
3. **....Motors.....** are used to move parts of a robot.
4. The **....Controller.....** is the brain of the robot.



#### D-(Command Block - Stage Area - Control Block - Script Area - Sb3)

1. An area in the Scratch program where the blocks are assembled to form is called ...**Script area**.....
2. The area in the Scratch program where the results of a project or action are shown is called ....**Stage area**.....
3. ....**Control block**..... is the tool in Scratch that is used to delay the execution of commands for a specified period of time.
4. ....**sb3**..... is the default file format (extension) in which a Scratch project is saved.
5. A set of code commands arranged in a specific order to perform specific tasks in a Scratch program is called ....**Command block**.....

#### E- (sprites area - Direction - Repeat - Pen blocks - Go to random position)

1. ....**Sprites area**..... an area in the Scratch program that contains the sprites used in the project and is used to modify their properties.
2. ....**go to random position**..... is a command used to move the sprite to a random location on the platform.
3. ....**pen blocks**..... is a tool from Add Extension that is used to draw geometric shapes.
4. ....**repeat** ..... block used to repeat a set of commands a specified number of times.
5. ....**direction**..... is a property that determines the direction in which the object moves on the stage.

#### F- (Programming – charts – robots – Versatility)

1. ....**versatility**..... is one of the features of Python.
2. Python is one of the easiest ....**programming**..... languages.
3. Matplotlib is a library for creating graphs and ....**charts**.....





**G-Download Python from the official website and arrange the following steps in the correct order.**

1. You must choose 64bit or 32bit, depending on your device specifications. (.....4.....)
2. Visit the official Python website [www.python.org](http://www.python.org). (...1.....)
3. Choose the system you are working on (Windows, Mac, or Linux). (.....3.....)
4. After downloading, install the program on your device and follow the instructions. (....5.....)
5. Choose “Downloads”. (....2.....)

**H-(interactive Python interface – underscore – strings – Booleans)**

1. ....Booleans..... are a type of variable that takes values true or false.
2. The .... interactive python interface..... is installed when Python is installed.
3. The variable name begins with a letter or an .... underscore.....



حمل الآن

مجاناً وحصرياً

# المراجعة رقم (5)

## الترم الثاني







## Questions

Question (1): Put (✓) or (✗).

1. Artificial intelligence is only used in the video game industry. ( )
2. Artificial intelligence can help doctors diagnose diseases ( )
3. Self-driving cars depend entirely on artificial intelligence ( )
4. Artificial intelligence can learn new things slowly ( )
5. Artificial intelligence is a science of computer science. ( )
6. For artificial intelligence to become intelligent, it needs small amounts of information. ( )
7. Artificial intelligence is only one type ( )
8. General artificial intelligence is the most advanced ( )
9. Narrow artificial intelligence can perform any task that a human can perform ( )
10. General artificial intelligence focuses on performing a specific task. ( )
11. Super artificial intelligence can solve specific problems ( )
12. Smart Games are used to make playing games more fun ( )
13. Instant Translator is used to facilitate communication between people ( )
14. Smart Shopping gives you suggestions for products you might like ( )
15. Natural language processing is like a machine language translator ( )
16. Robots are very good at doing a lot of things with great accuracy ( )
17. An AI model can be trained using images directly from the camera. ( )
18. Machine learning enables AI to learn from mistakes and improve performance. ( )
19. Smart robots cannot work in environments that are dangerous to humans. ( )
20. General AI is able to learning and adapt to new situations like humans. ( )
21. AI can be used in analysing data to improve online online shopping. ( )
22. Super AI (SAI) already exists in our daily lives. ( )
23. Personal assistants like Siri rely on AI to understand our commands. ( )
24. Light sensors measure the distance between the robot and the obstacles arounding it. ( )



25. Motion sensors help the robot navigate and interact with surrounding objects. ( )
26. A self-driving car is an example of an electronic device in which sensors are used. ( )
27. Ultrasonic sensors emit low-frequency sound waves and then receive the return waves after bouncing off an object. ( )
28. Vacuum robots use sensors to locate furniture without colliding. ( )
29. The first step in sensor operation is conversion. ( )
30. Laser range finders are accurate because they use laser beams. ( )
31. Light sensors are useful in underwater environments. ( )
32. A smart home lighting system uses sensors to turn on lights when someone enters the room. ( )
33. Ultrasonic sensor used for non-contact temperature measurement ( )
34. Light sensors help cars determine the distance to other vehicles. ( )
35. Sensors have no role in robot movement and sensing its surrounding environment. ( )
36. Robots work is limited to factories only. ( )
37. Medical robots help doctors perform surgeries ( )
38. The design of the structure affects the weight and its ability to move . ( )
39. Vision sensors are used to capture sounds ( )
40. Motors used in robotics include electric motors and air motors ( )
41. The control unit processes the data collected by the sensors and issues commands to the motors. ( )
42. Robots rely on direct energy sources only and we cannot use batteries or solar cells. ( )
43. Robots do not need to use software in their work. ( )
44. Robots use communication tools to interact with users or other robots. ( )
45. The areas of use of robots include industry, healthcare, and education ( )
46. Rombaa robots are one of the industrial robots ( )
47. Medical robots are being used in schools to teach students how to code ( )
48. The structure is the basic part that holds all the components of the robot ( )
49. Sensors are the senses Of the robot. ( )





50. Robots can rely on solar cells as a power source ( )
51. The structure is what makes a robot smart. ( )
52. The Scratch program provides a very wide range of ideas that can be programmed ( )
53. The Scratch program helps the student learn the principles of programming ( )
54. The Scratch program is considered a difficult educational tool to use ( )
55. The student in the Scratch program needs to write a lot of complex codes. ( )
56. Scratch uses a visual interface based on blocks ( )
57. The Scratch program is paid. ( )
58. In the Scratch program, students face difficulty in sharing projects with other ( )
59. In the Scratch program, the Stage area shows the programming sections. ( )
60. In the Scratch program, the result of the work or project appears in the Area "Blocks Area" ( )
61. To implement the project, click on the symbol ( )
62. The "Wait" command is used to change the speed of command execution in Scratch ( )
63. Sprites in Scratch appear in the Stage area. ( )
64. X coordinates represent the horizontal movement of the object on the stage ( )
65. The default file format for Scratch projects is (.exe). ( )
66. The interface language of the Scratch program can be changed to Arabic. ( )
67. Scratch helps develop creative thinking and problem-solving skills ( )
68. Stage area is used to assemble building blocks ( )
69. The sprites used in the project appear in the Sprites area. ( )
70. The sprite name can be modified only once. ( )
71. The location of the sprite on the platform is determined by the value of the horizontal axis X only. ( )
72. To modify the name of the sprite, click on its current name and rename it. ( )
73. The direction of the sprite's movement can be changed by clicking on the word Direction. ( )
74. The direction of the object's movement can be changed by clicking on the word Direction ( )



75. The sprite can be shown or hidden on the platform by clicking on Choose Sprite ( )
76. The size of the sprite is changed by its value in the Sprites area ( )
77. The sprite can be deleted from the platform. ( )
78. Only one sprite can be added to the platform ( )
79. To add a new Sprite click on .Choose Sprite ( )
80. Stop command is used to watch the project execution. ( )
81. A new background is added to the project through the programming area ( )
82. Start command is used to stop project execution ( )
83. We use the coordinates (x, y) to locate the point on the stage ( )
84. The default position of the sprite on the platform is (80, 100) ( )
85. The name of an object in the sprite area can be modified by clicking on it and renaming it ( )
86. Go to random position block is used to move the object to a random location ( )
87. A new background can be added to the project using the Choose Sprite option. ( )
88. The Pentool is used to draw geometric shapes in Scratch ( )
89. The sprite size can be changed in the sprite area ( )
90. Play Sound block used to hide the sprite from the stage ( )
91. Python is a free and open-source language, which does not allow anyone to develop it. ( )
92. It is not permissible to create applications and websites in Python ( )
93. Python uses data science and machine learning. ( )
94. Python is an interpreted language because it translates programming codes line by line ( )
95. Python is used in developing web applications, data science, artificial intelligence, machine learning, and game programming ( )
96. Python is one of the most difficult programming languages ( )
97. Python can be integrated with other languages such as C, C++, and Java ( )
98. One of the disadvantages of Python is the lack of libraries that you can use ( )
99. NumPy: A library used in data science, statistics, and artificial intelligence ( )





100. Pandas: A library for analyzing and processing data ( )
101. Programmers can quickly find errors in code in Python. ( )
102. Python is one of the easiest programming languages for beginners because of its simple and organized syntax. ( )
103. Python libraries provide ready-made solutions to many problems. ( )
104. Pandas library is heavily used in data science and statistics. ( )
105. There is no library for data analysis and processing in Python. ( )
106. Variables in programming languages are a reserved place in memory to store and save a specific value. ( )
107. The variable name must not begin with a letter or an underscore sign\_. ( )
108. TAHER, Taher, taher, TaheR .are names for variables in Python ( )
109. The change name contains letters(A – Z) numbers, or an underscore , character. ( )
110. When naming variables, reserved words in the Python language may be used ( )
111. Y=10 The statement type of the variable Y is numeric integer ( )
112. "Cairo" =City The statement type for the City variable is text ( )
113. Is\_taher\_Students=False The statement type of the variable Is\_taher\_student is logical. ( )
114. To know the type of a variable, we do not need to use the type() function. ( )
115. The texts of variables are placed between single quotation marks ' or double quotation marks " ( )
116. A variable is a non-reserved place to store fixed values that cannot be .changed ( )
117. .When naming a variable, you must start with a number ( )
118. .Variable values can be changed according to the code ( )
119. Reserved words can be used in Python because they express specific .values that the program understands ( )
120. Logical values take the values(5 – 4 – 3) ( )
121. The use of uppercase and lowercase letters can be ignored when naming a .variable ( )



**Choose The Correct answer: -**

**(Narrow AI – Machine Learning – Natural Language Processing – Computer Vision – General AI – Teachable Machine)**

1. ----- is a type of AI that can perform all tasks a human can do.
2. ----- It is the ability of devices to understand written and spoken human language is using AI.
3. ----- A website used to create smart models for classifying images, sounds, and movements.
4. ----- It is a technology that helps AI recognize and analyze images.
5. ----- It is a technology that make AI learn from mistakes to improve its performance.

**(Sensor – Signal Conversion – Sensors – Ultrasonic sensor – Distance Sensors)**

1. A device that translate sensations such as heat, light, and sound into a language that a computer understands is.....
2. A type of devices that use sound waves to measure the distance to objects is.....
3. The process through which a sensor converts sensing information into electronic signals is the .....step.

**(Motors – Educational – robot – Controller – software)**

1. A.....is a device that can be programmed to perform a set of specific tasks automatically.
2. ....robot are used in schools to teach students.
3. ....are used to move parts of a robot.
4. The .....is the brain of the robot.

**(Command Block – Stage Area – Control Block – Script Area – Sb3)**

1. An area in the scratch program where the blocks are assembled to form is called.....
2. The area in the scratch program where the results of a project or action are shown is called.....
3. ....is the tool in scratch that used to delay the execution of commands for a specific period of time.
4. ....is the default file format "extension" in which a scratch project is saved.
5. A set of code commands arranged in a specific order to perform specific task in a scratch program is called.

**(Programming – Versatility – Robos – Charts)**

1. is one of the features of Python -----
2. Python is one of the easiest .....languages
3. Matplotlib is a library for creating graphs and -----





**Choose The Correct answer from a, b, c, and d:**

**1. The main function of the sensor is .....**

- A. Store data
- B. Capture environmental changes and convert them into signals
- C. Display images
- D. Produce sound

**2. Sensors help robots to.....**

- A. Teach them new languages
- B. Allow them to interact with their environment
- C. Increase their size
- D. Slow down their operations

**3. A type of sensor ..... is used to avoid obstacles.**

- A. Light sensors
- B. Sound sensors
- C. Distance sensors
- D. Heat sensors

**4. The first step in the operation of the sensor is .....**

- A. Transmitting
- B. Displaying
- C. Sensing
- D. Transduction

**5. .... are commonly used in remote controls.**

- A. Ultrasonic sensors
- B. Infrared sensors
- C. Light sensors
- D. Motion sensors

**6. Laser rangefinders are accurate because they use .....**

- A. Sound waves
- B. Visible light
- C. High frequency waves
- D. Laser beams

**7. A common application of sensors is the use of infrared in .....**

- A. Smartphones
- B. Remote controls
- C. Vacuum cleaners
- D. 3D scanning

**8. In which environment are light sensors useful? .....**

- A. In dark rooms
- B. In places with variable lighting conditions
- C. In underwater environments
- D. In noisy factories

**9. One of the sensors that are used to measure distance using high frequency sound waves is .....**

- A. Ultrasonic sensors
- B. Laser rangefinders
- C. Infrared sensors
- D. Motion sensors



**10. .... sensors are used to turn on lights when someone enters the room.**

- |                               |                |
|-------------------------------|----------------|
| A. Smartphone                 | B. Smart car   |
| C. Smart Home Lighting System | D. Smart Watch |

**11. .... is used for non-contact temperature measurement.**

- |                      |                    |
|----------------------|--------------------|
| A. Ultrasonic sensor | B. Infrared sensor |
| C. Light sensor      | D. Motion sensor   |

**12. .... is the main purpose of the signal conversion step in sensors.**

- |  |                                       |
|--|---------------------------------------|
| A. Display the results                             | B. Send the signals to another device |
| C. Convert the information into electrical signals | D. Turn off the sensor                |

**13. .... helps cars determine the distance to other vehicles.**

- |                     |                     |
|---------------------|---------------------|
| A. Sound sensors    | B. Light sensors    |
| C. Infrared sensors | D. Distance sensors |

**14. .... is the practical use of motion sensors in games.**

- |                                   |  |
|-----------------------------------|--|
| A. Change the volume              | B. Adjust the brightness of the screen |
| C. Track the movements of players | D. Improve the sound quality           |

**15. Factors that determine the choice of a sensor for a particular application.....**

- |                                      |                        |
|--------------------------------------|------------------------|
| A. Brand of the device               | B. Color of the device |
| C. Environment and required accuracy | D. Size of the device  |

**16- The challenges facing robotics technology include.....**

- A- Increased reliance on paper documents.
- B- Increased reliance on smartphones.
- C- Safety, employment and ethics.
- D- Increased reliance on traditional machines.

**17- In production lines, robots can perform repetitive tasks accurately and without any delay, which leads to.....**

- |   |   |
|---|---|
| A- Increased efficiency and productivity. | B- Decreased efficiency and productivity. |
| C- Lack of product development.           | D- Slow production process.               |

**18- Robots help in dangerous tasks such as.....**

- A- Transportation.
- B- Handling heavy weights and hazardous chemicals.
- C- Irrigating gardens and parks.
- D- Cleaning the house

**19- To take pictures and videos, we use sensors .....**

- |          |           |
|----------|-----------|
| A- Sound | B- Touch  |
| C- Light | D- Vision |





**20. ....is one of the advantages of the scratch program.**

- |                                    |   |
|------------------------------------|---|
| A. Complex interface               | B. Requires complex coding              |
| C. Free and available for download | D. Focuses only on advanced programming |

**21. ....is an area used to assemble building blocks in scratch.**

- |               |                 |
|---------------|-----------------|
| A. Stage Area | B. Script Area  |
| C. Menu Bar   | D. Sprites Area |

**22. Purpose of using "wait" command in scratch is.....**

- |   |                                  |
|---|----------------------------------|
| A. automatically launch the program       | B. stopping the project          |
| C. control the execution time of commands | D. change the interface language |

**23. The location of the sprite inn scratch on the platform can be determined by**

.....

- |               |                               |
|---------------|-------------------------------|
| A- x, y axes  | B- Changing of direction      |
| C- name Chang | D- Using the Play Sound brick |

**24. This is the option required to activate the Pen Tool....**

- |                          |                  |
|--------------------------|------------------|
| A- Choose Sprite         | B- Add Extention |
| C- Go to random position | D- Change Size   |

**25. A circle can be drawn in Scratch by .....**

- |                                     |   |
|-------------------------------------|---|
| A. Moving the pen in straight line. | B. Repeating short lines at different angles. |
| C. Using the Play Sound command.    | D. Changing the name of sprite.               |

**26. The function ..... is used to display texts or values on the output screen**

- |             |            |
|-------------|------------|
| A. Cos( )   | B. Type( ) |
| C. Print( ) | D. Sin( )  |

**27. The text value of the variable is placed between the signs .....**

- |       |       |
|-------|-------|
| A. "" | B. <> |
| C. >= | D. =< |

**28. To display texts, variables, or even the results of mathematical operations, we use the function .....**

- |             |            |
|-------------|------------|
| A. Cos( )   | B. Type( ) |
| C. Print( ) | D. Sin( )  |

**29. To know the type of the variable statement, we use the function .....**

- |             |            |
|-------------|------------|
| A. Cos( )   | B. Type( ) |
| C. Print( ) | D. Sin( )  |



## Answer

Question (1): Put (✓) or (✗).

1. Artificial intelligence is only used in the video game industry. (✗)
2. Artificial intelligence can help doctors diagnose diseases (✓)
3. Self-driving cars depend entirely on artificial intelligence (✓)
4. Artificial intelligence can learn new things slowly (✗)
5. Artificial intelligence is a science of computer science. (✓)
6. For artificial intelligence to become intelligent, it needs small amounts of information. (✗)
7. Artificial intelligence is only one type (✗)
8. General artificial intelligence is the most advanced (✗)
9. Narrow artificial intelligence can perform any task that a human can perform (✗)
10. General artificial intelligence focuses on performing a specific task. (✗)
11. Super artificial intelligence can solve specific problems (✗)
12. Smart Games are used to make playing games more fun (✓)
13. Instant Translator is used to facilitate communication between people (✓)
14. Smart Shopping gives you suggestions for products you might like (✓)
15. Natural language processing is like a machine language translator (✓)
16. Robots are very good at doing a lot of things with great accuracy (✓)
17. An AI model can be trained using images directly from the camera. (✓)
18. Machine learning enables AI to learn from mistakes and improve performance. (✓)
19. Smart robots cannot work in environments that are dangerous to humans. (✗)
20. General AI is able to learning and adapt to new situations like humans. (✓)





21. AI can be used in analysing data to improve online online shopping. (✓)
22. Super AI (SAI) already exists in our daily lives. (✗)
23. Personal assistants like Siri rely on AI to understand our commands. (✓)
24. Light sensors measure the distance between the robot and the obstacles surrounding it. (✗)
25. Motion sensors help the robot navigate and interact with surrounding objects. (✓)
26. A self-driving car is an example of an electronic device in which sensors are used. (✓)
27. Ultrasonic sensors emit low-frequency sound waves and then receive the return waves after bouncing off an object. (✗)
28. Vacuum robots use sensors to locate furniture without colliding. (✓)
29. The first step in sensor operation is conversion. (✗)
30. Laser range finders are accurate because they use laser beams. (✓)
31. Light sensors are useful in underwater environments. (✓)
32. A smart home lighting system uses sensors to turn on lights when someone enters the room. (✗)
33. Ultrasonic sensor used for non-contact temperature measurement (✗)
34. Light sensors help cars determine the distance to other vehicles. (✗)
35. Sensors have no role in robot movement and sensing its surrounding environment. (✗)
36. Robots work is limited to factories only. (✗)
37. Medical robots help doctors perform surgeries (✗)
38. The design of the structure affects the weight and its ability to move. (✓)
39. Vision sensors are used to capture sounds (✗)
40. Motors used in robotics include electric motors and air motors (✓)
41. The control unit processes the data collected by the sensors and issues commands to the motors. (✓)
42. Robots rely on direct energy sources only and we cannot use batteries or solar cells. (✗)



43. Robots do not need to use software in their work. (×)
44. Robots use communication tools to interact with users or other robots. (×)
45. The areas of use of robots include industry, healthcare, and education (×)
46. Rombaa robots are one of the industrial robots (×)
47. Medical robots are being used in schools to teach students how to code (×)
48. The structure is the basic part that holds all the components of the robot (✓)
49. Sensors are the senses Of the robot. (✓)
50. .Robots can rely on solar cells as a power source (✓)
51. The structure is what makes a robot smart. (×)
52. The Scratch program provides a very wide range of ideas that can be programmed (✓)
53. The Scratch program helps the student learn the principles of programming (✓)
54. The Scratch program is considered a difficult educational tool to use (×)
55. The student in the Scratch program needs to write a lot of complex codes. (×)
56. Scratch uses a visual interface based on blocks (✓)
57. The Scratch program is paid. (×)
58. In the Scratch program, students face difficulty in sharing projects with other (×)
59. In the Scratch program, the Stage area shows the programming sections. (×)
60. In the Scratch program, the result of the work or project appears in the Area "Blocks Area" (×)
61. To implement the project, click on the symbol (✓)
62. The "Wait" command is used to change the speed of command .execution in Scratch (✓)
63. Sprites in Scratch appear in the Stage area. (✓)
64. X coordinates represent the horizontal movement of the object on - .the stage (✓)





65. The default file format for Scratch projects is(.exe). (×)
66. The interface language of the Scratch program can be changed to Arabic. (✓)
67. .Scratch helps develop creative thinking and problem-solving skills (✓)
68. Stage .area is used to assemble building blocks (×)
69. The sprites used in the project appear in the Sprites area. (✓)
70. The sprite name can be modified only once. (×)
71. The location of the sprite on the platform is determined by the value of the horizontal axis X only. (×)
72. To modify the name of the sprite, click on its current name and rename it. (✓)
73. The direction of the sprite's movement can be changed by clicking on the word Direction. (✓)
74. The direction of the object's movement can be changed by clicking on the word Direction (✓)
75. The sprite can be shown or hidden on the platform by clicking on Choose Sprite (×)
76. The size of the sprite is changed by its value in the Sprites area (✓)
77. The sprite can be deleted from the platform. (✓)
78. Only one sprite can be added to the platform (×)
79. To add a new Sprite click on .Choose Sprite (✓)
80. Stop command is used to watch the project execution. (×)
81. A new background is added to the project through the programming area (×)
82. Start command is used to stop project execution (×)
83. We use the coordinates (x,y) to locate the point on the stage (✓)
84. The default position of the sprite on the platform is (80, 100) (×)
85. The name of an object in the sprite area can be modified by clicking on it and renaming it (✓)
86. Go to random position block is used to move the object to a random location (✓)



87. A new background can be added to the project using the Choose Sprite option. (x)
88. The Pen tool is used to draw geometric shapes in Scratch (√)
89. The sprite size can be changed in the sprite area (√)
90. Play Sound block used to hide the sprite from the stage (x)
91. Python is a free and open-source language, which does not allow anyone to develop it. (x)
92. It is not permissible to create applications and websites in Python (x)
93. Python uses data science and machine learning. (√)
94. Python is an interpreted language because it translates programming codes line by line (√)
95. Python is used in developing web applications, data science, artificial intelligence, machine learning, and game programming (√)
96. Python is one of the most difficult programming languages (x)
97. Python can be integrated with other languages such as C, C++, and Java (√)
98. One of the disadvantages of Python is the lack of libraries that you can use (x)
99. NumPy: A library used in data science, statistics, and artificial intelligence (√)
100. Pandas: A library for analyzing and processing data (√)
101. Programmers can quickly find errors in code in Python. (√)
102. Python is one of the easiest programming languages for beginners because of its simple and organized syntax. (√)
103. Python libraries provide ready-made solutions to many problems. (√)
104. Pandas library is heavily used in data science and statistics. (x)
105. There is no library for data analysis and processing in Python. (x)
106. Variables in programming languages are a reserved place in memory to store and save a specific value. (√)
107. The variable name must not begin with a letter or an underscore sign\_. (x)
108. TAHER, Taher, tahir, TaheR. are 4 names for variables in Python (√)





109. The change name contains letters(A – Z) numbers, or an underscore , character. (✓)
110. When naming variables, reserved words in the Python language may be used (✗)
111. Y=10 The statement type of the variable Y is numeric integer (✓)
112. "Cairo" =City The statement type for the City variable is text (✓)
113. Is\_taher\_Students=False The statement type of the variable Is\_taher\_student is logical. (✓)
114. To know the type of a variable, we do not need to use the type() function. (✗)
115. The texts of variables are placed between single quotation marks ‘’ or double quotation marks “” (✗)
116. A variable is a non-reserved place to store fixed values that cannot be .changed (✗)
117. .When naming a variable, you must start with a number (✗)
118. .Variable values can be changed according to the code (✓)
119. Reserved words can be used in Python because they express specific .values that the program understands (✗)
120. Logical values take the values(5 – 4 – 3) (✗)
121. The use of uppercase and lowercase letters can be ignored when .naming a variable (✗)

 **Choose The Correct answer: –**

(Narrow AI – Machine Learning – Natural Language Processing – Computer Vision – General AI – Teachable Machine)

1. **General AI** is a type of AI that can perform all tasks a human can do.
2. **Natural Language Processing** It is the ability of devices to understand written and spoken human language is using AI.
3. **Teachable Machine** A website used to create smart models for classifying images, sounds, and movements.
4. **Computer Vision** It is a technology that helps AI recognize and analyze images.
5. **Machine Learning** It is a technology that make AI learn from mistakes to improve its performance.



**(Sensor – Signal Conversion – Sensors – Ultrasonic sensor – Distance Sensors)**

1. A device that translates sensations such as heat, light, and sound into a language that a computer understands is Sensor
2. A type of devices that use sound waves to measure the distance to objects is Ultrasonic sensor
3. The process through which a sensor converts sensing information into electronic signals is the Signal Conversion step.

**(Motors – Educational – robot – Controller – software)**

1. A robot is a device that can be programmed to perform a set of specific tasks automatically.
2. Educational robots are used in schools to teach students.
3. Motors are used to move parts of a robot.
4. The Controller is the brain of the robot.

**(Command Block – Stage Area – Control Block – Script Area – Sb3)**

1. An area in the scratch program where the blocks are assembled to form is called Script Area
2. The area in the scratch program where the results of a project or action are shown is called Stage Area
3. Control Block is the tool in scratch that is used to delay the execution of commands for a specific period of time.
4. Sb3 is the default file format "extension" in which a scratch project is saved.
5. A set of code commands arranged in a specific order to perform a specific task in a scratch program is called Command Block.

**(Programming – Versatility – Robos – Charts)**

1. Versatility is one of the features of Python
2. Python is one of the easiest Programming languages
3. Matplotlib is a library for creating graphs and Charts

**✎ Choose The Correct answer from a, b, c, and d:**

**1. The main function of the sensor is .....**

A. Store data

**B. Capture environmental changes and convert them into signals**

C. Display images

D. Produce sound

**2. Sensors help robots to .....**

A. Teach them new languages

**B. Allow them to interact with their environment**

C. Increase their size

D. Slow down their operations





3. A type of sensor ..... is used to avoid obstacles.

A. Light sensors

B. Sound sensors

C. Distance sensors

D. Heat sensors

4. The first step in the operation of the sensor is .....

A. Transmitting

B. Displaying

C. Sensing

D. Transduction

5. .... are commonly used in remote controls.

A. Ultrasonic sensors

B. Infrared sensors

C. Light sensors

D. Motion sensors

6. Laser rangefinders are accurate because they use .....

A. Sound waves

B. Visible light

C. High frequency waves

D. Laser beams

7. A common application of sensors is the use of infrared in .....

A. Smartphones

B. Remote controls

C. Vacuum cleaners

D. 3D scanning

8. In which environment are light sensors useful? .....

A. In dark rooms

B. In places with variable lighting conditions

C. In underwater environments

D. In noisy factories

9. One of the sensors that are used to measure distance using high frequency sound waves is .....

A. Ultrasonic sensors

B. Laser rangefinders

C. Infrared sensors

D. Motion sensors

10. .... sensors are used to turn on lights when someone enters the room.

A. Smartphone

B. Smart car

C. Smart Home Lighting System

D. Smart Watch

11. .... is used for non-contact temperature measurement.

A. Ultrasonic sensor

B. Infrared sensor

C. Light sensor

D. Motion sensor

12. .... is the main purpose of the signal conversion step in sensors.

A. Display the results

B. Send the signals to another device

C. Convert the information into electrical signals

D. Turn off the sensor

13. .... helps cars determine the distance to other vehicles.

A. Sound sensors

B. Light sensors

C. Infrared sensors

D. Distance sensors



14. .... is the practical use of motion sensors in games.

A. Change the volume

B. Adjust the brightness of the screen

C. Track the movements of players

D. Improve the sound quality

15. Factors that determine the choice of a sensor for a particular application.....

A. Brand of the device

B. Color of the device

C. Environment and required accuracy

D. Size of the device

16- The challenges facing robotics technology include.....

A- Increased reliance on paper documents.

B- Increased reliance on smartphones.

C- Safety, employment and ethics.

D- Increased reliance on traditional machines.

17- In production lines, robots can perform repetitive tasks accurately and without any delay, which leads to.....

A- Increased efficiency and productivity.

B- Decreased efficiency and productivity.

C- Lack of product development.

D- Slow production process.

18- Robots help in dangerous tasks such as.....

A- Transportation.

B- Handling heavy weights and hazardous chemicals.

C- Irrigating gardens and parks.

D- Cleaning the house

19- To take pictures and videos, we use sensors .....

A- Sound

B- Touch

C- Light

D- Vision

20. .... is one of the advantages of the scratch program.

A. Complex interface

B. Requires complex coding

C. Free and available for download

D. Focuses only on advanced programming

21. .... is an area used to assemble building blocks in scratch.

A. Stage Area

B. Script Area

C. Menu Bar

D. Sprites Area

22. Purpose of using "wait" command in scratch is.....

A. automatically launch the program

B. stopping the project

C. control the execution time of commands

D. change the interface language

23. The location of the sprite in scratch on the platform can be determined by .....

A- x, y axes

B- Changing of direction

C- name Chang

D- Using the Play Sound brick

24. This is the option required to activate the Pen Tool....

A- Choose Sprite

B- Add Extension

C- Go to random position

D- Change Size





25. A circle can be drawn in Scratch by .....

- A. Moving the pen in straight line.      **B. Repeating short lines at different angles.**  
 C. Using the Play Sound command.      D. Changing the name of sprite.

26. The function ..... is used to display texts or values on the output screen

- A. Cos( )      B. Type( )  
**C. Print( )**      D. Sin( )

27. The text value of the variable is placed between the signs .....

- A. ""**      B. <>  
 C. >=      D. =<

28. To display texts, variables, or even the results of mathematical operations, we use the function .....

- A. Cos( )      B. Type( )  
**C. Print( )**      D. Sin( )

29. To know the type of the variable statement, we use the function .....

- A. Cos( )      **B. Type( )**  
 C. Print( )      D. Sin( )

حمل الآن

مجاناً وحصرياً

# المراجعة رقم (6)

## الترم الثاني






**Put (v) or (x) :**

- 1 .Artificial intelligence can learn new things slowly ( ) .**
- 2 .Self-driving cars rely entirely on artificial intelligence ( ) .**
- 3 .Artificial intelligence is a branch of computer science ( ) .**
- 4 .Artificial intelligence is only one type ( ) .**
- 5 .Artificial intelligence can help doctors diagnose diseases ( ) .**
- 6 .Artificial intelligence is only used in the video game industry ( ) .**
- 7 .Artificial intelligence is only used in the video game industry ( ) .**
- 8 .For artificial intelligence to become intelligent, it needs small amounts of information ( ) .**
- 9 .Narrow artificial intelligence can perform any task a human can perform ( ) .**
- 10 .General artificial intelligence is the most advanced ( ) .**
- 11 .General artificial intelligence focuses on performing a specific task ( ) .**
- 12 .Super artificial intelligence can solve specific problems ( ) .**
- 13 .Smart games are used to make gaming more enjoyable. Fun ( ) .**
- 14 .Instant Translator is used to facilitate communication between people ( ) .**
- 15 .Smart Shopping offers you product suggestions you might like ( ) .**
- 16 .Natural language processing is similar to a machine language translator ( ) .**
- 17 .Robots perform many tasks with great precision ( ) .**
- 18 .The first step in a sensor's operation is conversion ( ) .**
- 19 .Laser rangefinders are accurate because they use laser beams ( ) .**
- 20 .Light sensors are useful in underwater environments ( ) .**
- 21 .A smart home lighting system uses sensors to turn on lights when someone enters the room ( ) .**
- 22 .An ultrasonic sensor is used for non-contact temperature measurement ( ) .**
- 23 .Visible light sensors help cars determine their distance to other vehicles ( ) .**
- 23 .Sensors convert changes in the surrounding environment into electrical signals that devices can understand ( ) .**

- 24** .Sensors are only used in robots and are not used in smartphones or cars ( ) .
- 25** .Distance sensors help robots avoid collisions with surrounding obstacles. ( )
- 26** .Infrared sensors operate by emitting high-frequency sound waves ( ) .
- 27** .Environmental conditions such as humidity and temperature can affect the selection of the appropriate sensor type ( ) .
- 28** .The design of the structure affects the weight and mobility of the robot ( ) .
- 29** .Robots are limited to factories only ( ) .
- 30** .Motors used in robots include electric motors and pneumatic motors ( ) .
- 31** .Medical robots assist doctors in performing surgeries ( ) .
- 32** .The control unit processes the data collected by the sensors and issues commands to the motors ( ) .
- 33** .Robots do not require software to operate ( ) .
- 34** .Sensors do not play a role in robot movement and sensing the surrounding environment ( ) .
- 35** .Robots rely solely on direct power sources and cannot use batteries or solar cells ( ) .
- 36** .Robots use communication tools to interact with users or other robots ( ) .
- 37** .Robots are used in industry, healthcare, and education ( ) .
- 38** .Robots cannot be programmed to perform various tasks as needed ( ) .
- 39** .Robots help reduce risks to human life in hazardous environments ( ) .
- 40** .Robots are used in agriculture to cultivate plants manually ( ) .
- 41** .The precision of robots in performing tasks helps improve manufacturing quality ( ) .
- 42** .There are some challenges facing robotics technology, such as safety, employment, and ethics ( ) .
- 43** .The control unit is the brain of the robot and varies from simple to complex( ) .
- 44** .Wi-Fi is one of the communication tools between robots and users ( ) .
- 45** .In the Scratch program, a student needs to write a lot of complex code ( ) .
- 46** .Scratch is considered a difficult educational tool to use ( ) .



- 47** .In Scratch, the Stage area displays the programming sections ( ) .
- 48** .Scratch is a paid program ( ) .
- 49** .Scratch uses a visual interface based on a set of blocks ( ) .
- 50** .Scratch helps students learn the principles of programming ( ) .
- 51** .Scratch provides a very wide range of ideas that can be programmed ( ) .
- 52** .In Scratch, students have difficulty sharing projects with others ( ) .
- 53** .In Scratch, the results of the work or project appear in the Blocks Area ( ) .
- 54** . To execute the project, click the  icon ( )
- 55** . Interactive AI games can be created using Scratch ( ) .
- 56** .The Scratch interface cannot be changed to Arabic ( ) .
- 57** .The wait command can be used to control the speed of Sprite 's movement ( ) .
- 58** .Sprites used in the project appear in the Sprites area ( ) .
- 59** .Sprite 's location on the platform is determined by the value of the horizontal axis X only .( )
- 60** .The horizontal and vertical axes are used to determine the current location of the Sprite on the platform ( ) .
- 61** .To modify the name of the Sprite , click on its current name and rename it( ) .
- 62** .The direction of the Sprite 's movement can be changed by clicking on the word " Direction" .( )
- 63** . The Sprite can be shown or hidden on the platform by clicking on Choose Sprite .( )
- 64** .We use click , drag-and-drop to interact with any command inside the code section. ( )
- 65** .A script is a set of commands arranged in a specific order ( ) .
- 66** . The size of the sprite is changed by its value in the Sprites area ( ) .
- 67** .The Sprite can be removed from the platform ( ) .
- 68** .Only one Sprite can be added to the platform ( ) .
- 69** .To add a new Sprite, click Choose Sprite ( ) .

- 70** .The Stop command is used to watch the project execution ( ) .
- 71** .A new background is added to the project through the programming area( ) .
- 72** .The Start command is used to stop project ( ) .
- 73** .We use the (X,Y) coordinates to determine the location of the Sprite on the stage ( ) .
- 74** .In Scratch, an object's name can be modified more than once ( ) .
- 75** .In Scratch, the horizontal and vertical axis are used to determine the current location of the Sprite on the platform ( ) .
- 76** .Python is considered one of the most difficult programming languages ( ) .
- 77** .Python is used in data science and machine learning development ( ) .
- 78** .Python is considered an interpreted language because it translates code line by line ( ) .
- 79** .It is not possible to create applications and websites in Python ( ) .
- 80** .Python is a free and open-source language, which does not allow anyone to develop it( ) .
- 82** .Python is used in web application development, data science, artificial intelligence, machine learning, and game programming( ) .
- 83** . Python can be integrated with other languages such as C++, C, and Java because it is an integration language. ( )
- 84** . The NumPy library is used in data science, statistics, and artificial intelligence . ( )
- 85** .Pandas is a library used for data analysis and processing ( ) .
- 86** .Python is downloaded based on your device specifications, choosing between 64-bit and 32-bit( ) .
- 87** .Python is one of the easiest programming languages for beginners and can be downloaded from the official website [www.python.org](http://www.python.org) ( ) .
- 88** .A program written in Python executes without interruption, even in the event of a programming error( ) .
- 89** .Python runs on various operating systems, such as Windows and Linux( ) .



- 90** .The Python programming language is easy because of using words similar to English. ( )
- 91** .Variables in programming languages are reserved memory locations for storing a specific value. ( )
- 92** .A variable name may not begin with a letter or an underscore. ( )
- 93** .AMIRA, AMiRa, amira, Amira are four names for variables in Python ( ) .
- 94** .The variable name can contain letters (A-Z), numbers, or the underscore .( )
- 95** .When naming variables, you may use Python reserved words ( ) .
- 96** - Y=25.3 is the statement type of the variable Y, a numeric integer( ) .
- 97** .City = "Cairo" the statement type of the variable City is text.( )
- 98** .To determine the type of a variable, we do not need to use the type ( ) function ( ) .
- 99** .Variable text is enclosed in single or double quotes ( ) .
- 100** .Booleans are used to store data types that can only hold the values False and True ( ) .
- 101** .Strings variables are used to store names and addresses ( ) .
- 102** .X=2.5 is a numeric variable whose value is a float ( ) .
- 103** .Through the Python interactive interface, you can write long and complex code, save it, and run it later ( ) .
- 104** .The Print ( ) function is used to display the results of calculations ( ) .
- 105** .Matplotlib is a Python library used to create graphs and charts ( ) .
- 106** . The first version of Python was released in 1991. ( )

### **Question 2:**

**Choose the appropriate answer to complete each of the following statements:**

**1** .Artificial intelligence can easily solve problems that are difficult for humans and discover new things we never imagined before.

**A.** Narrow                      **B.** General                      **C.** Super                      **D.** Precise

**2** ..... Like Siri or Alexa, artificial intelligence is used to understand and carry out your commands.

**A. Personal assistant**

**B. Instant translator**

**C. Smart shopping**

**D. Natural language.**

**3 .Sensors help robots to.....**

**A. Teach them new languages.    B. Allow them to interact with their environment.**

**C. Increase their size.**

**D. Slow down their operations.**

**4 .A common application of sensors is the use of infrared radiation in.....**

**A. Smartphones**

**B. Remote controls**

**C. Vacuum cleaners**

**D. 3D scanning.**

**5 .Robots help in dangerous tasks such as.....**

**A. Transportation**

**B. Handling heavy loads and hazardous chemicals**

**C. Irrigating gardens and parks**

**D. House cleaning.**

**6 .In production lines, robots can perform repetitive tasks accurately and without delay, which leads to.....**

**A. Increased efficiency and productivity**

**B. Decreased efficiency and productivity**

**C. Lack of product development**

**D. Slower production processes.**

**7 .To execute the project, click on the ..... icon.**

**A-**



**B-**



**C-**



**D-**



**8 .In Scratch, the result of the project appears on the ..... area**

**A- Script Area**

**B- Stage**

**C- Area Blocks**

**D- Sprites**

**9 .In Scratch, to repeat the movement of a sprite, we use the .....command**

**A- Start**

**B- Choose Sprite**

**C- Repeat**

**D- Stop**

**10 .In Scratch, to add sound effects to a sprite, we use the ..... command**

**A- Repeat**

**B- Play Sound**

**C- Looks**

**D- Choose a Backdrop**

**11 .One of the advantages of the Python language is that it is.....**



**A- Open Source      B- Closed Source      C- Not Free      D- Limited Use**

**12.** Python translates programming code line by line, which means it is .....

- A. Complex language      B. Interpreted language**
- C. Closed-source      D. Non-integrated.**

**13 .**The primary function of a sensor is to.....

- A. Store data      B. Capture environmental changes and convert them into signals**
- C. Display images      D. Produce sound.**

**14 .**Sensors help robots to.....

- A. Teach them new languages      B. Allow them to interact with their environment**
- C. Increase their size      D. Slow down their operation**

**15.....**is used in robots to react to sounds.

- A. Light sensors      B. Sound sensors**
- C. Distance sensors      D. Temperature sensors.**

**15 .**The first step in a sensor's operation is.....

- A. Transmit      B. Display      C. Sensing      D. Transduce**

**16.....**is commonly used in remote controls.

- A. Ultrasonic sensors      B. Infrared sensors**
- C. Light sensors      D. Motion sensors**

**17 .**Laser rangefinders are accurate because they use..... ..

- A. Sound waves      B. High-frequency waves**
- C. Laser beams      D. Visible light**

**18 .**In which environment are light sensors useful ?.....

- A. In dark rooms      B. In places with variable lighting conditions**
- C. In underwater environments      D. In noisy factories.**

**19 .**Which of the following sensors is used to measure distance using high-frequency sound waves ?.....

- A. Ultrasonic sensors      B. Laser range finders**

**C. Motion sensors**

**D. Infrared sensors**

**20** ..... sensors are used to turn on lights when someone enters the room.

**A. Smartphone    B. Smart car    C. Smart home lighting system    D. Smart watch**

**21** .....is used for non-contact temperature measurement

**A. Ultrasonic sensor**

**B. Infrared sensor**

**C. Light sensor**

**D. Motion sensors**

**22**-The main purpose of the signal conversion step in sensors is to.....

**A. Send signals to another device    B. Convert information into electrical signals**

**C. Turn off the sensor**

**D. Display the results**

**23** .....helps cars determine the distance to other vehicles.

**A. Sound sensors**

**B. Visible light sensors**

**C. Distance sensors**

**D. Infrared sensor**

**24** .The practical use of motion sensors in games is considered to be.....

**A. Changing the volume**

**B. Adjusting the screen brightness**

**C. Tracking player movements**

**D. Improving sound quality**

**25** .Factors that determine the choice of a sensor for a particular application include.....

**A. Device brand**

**B. Device color**

**C. Environment and required accuracy**

**D. Device size**

**26** .Among the challenges facing robotics technology are.....

**A. Increasing reliance on paper documents.    B. Increasing reliance on smartphones.**

**C. Safety, employment, and ethics.    D. Increasing reliance on traditional machines.**

**27** .Laser scanner sensors are used to create 3D.....

**A. Models**

**B. Algorithms**

**C. Locations**

**D. Places**

**28** .....systems are used to measure dimensions with high accuracy in various industries.

**A. Augmented Reality**

**B. Ground Surveying**

**C. Industrial Measurement**

**D. Time of Flight**



**29 .Smartphones use sensors to help them.....**

- A. Capture images** **B. Adjust lighting**  
**C. Determine the phone's location** **D. All of the above**

**30 .Power sources used in robots include.....**

- A. Solar cells only** **B. Batteries, solar cells, and direct power sources**  
**C. Direct power sources only** **D. Pneumatic actuators only**

**31 .The Scratch program file has the extension.....**

- A. Svb** **B. Sb3** **C. Doc** **D. Xls**

**32 .Sprite movement commands are found in the ..... command.**

- A. Motion** **B. Events** **C. Looks** **D. Control**

**33 .To save a project in Scratch, select Save to your computer from the ..... menu**

- A. Home** **B. View** **C. Tool** **D. File**

**34 ..... is a data analysis library in Python.**

- A-NumPy** **B-Pandas** **C-Matplotlib** **D-Program**

**35..... is a library used in data science and statistics in Python.**

- A. NumPy** **B. Pandas** **C. Matplotlib** **D. Program**

**36 ..... is a Python library used to create graphs and charts.**

- A. NumPy** **B. Pandas** **C. Matplotlib** **D. Program**

**37 .The ..... function is used to display text or values on the output screen.**

- A-sos( )** **B-type( )** **C-print( )** **D-sin( )**

**38 .To display textual results, strings, or even the results of mathematical operations, we use the function.....**

- A-sos( )** **B-type( )** **C-print( )** **D-sin( )**

**39 .To determine the type of a variable's statement, we use the function.....**

- A-sos( )** **B-type( )** **C-print( )** **D-sin( )**

**40 .The value of a variable is placed between the two punctuation marks.....**

- A-""** **B-<>** **C==<** **D=<-**

**41** .An example of a reserved word in Python is ....., which indicates a logical value.

**A-** Hello                      **B-Hi**                      **C-Rakan**                      **D-False**

**42** .The variable ..... is used for comparisons and decision-making in Python code.

**A.** String                      **B.** Object                      **C.** Boolean                      **D.** Number

**43** ..... allows you to write simple code and run it directly to see the results.

**A.** Python Shell                      **B.** Editor                      **C.** Website                      **D.** Program

**44** ..... allows you to write long and complex code and save it for later execution.

**A.** Python Shell                      **B.** Editor                      **C.** Website                      **D.** Program

**45** .The default Wait value in Scratch is equal to.....

**A.** 1 minute                      **B.** 1 second                      **C.** 30 minutes                      **D.** 30 seconds

### **Question 3**

Complete the following sentences with the appropriate brackets:

**1 – ( super - type() - motors - Sprites - signal conversion )**

**1** ..... is a function used to determine the type of a variable in Python.

**2** -It enables you to show and hide an Sprite using the ..... area in Scratch.

**3** -.....is considered the muscles of robots.

**4** -Sensors operate through specific steps: sensing, ....., and transmitting.

**5** -Some types of artificial intelligence are narrow, general, and.....

**2 - ( Total =100 - Editor - Machine Learning - Teachable Machine – Structure )**

**1** -..... is the basic part that holds all the components of the robot.

**2** -..... is the ability of artificial intelligence to learn new things.

**3** -To express a variable named Total with a value equal to 100, we write  
.....



4 -You can write long and complex codes and save them for later execution through.....

5 ..... is a website used to create intelligent models.

3- ( **Light sensors** - **Scratch** - **Controller** - **Repeat** – **Narrow** )

1 -Artificial Intelligence ..... focuses on performing a specific task.

2 -..... are used in robots operating in areas with changing light.

3- ..... is a free program for teaching the basics of programming.

4 -Sprite movement can be repeated using the command.....

5- ..... is the brain of robot .

4 -( **Motion** - **Pandas** - **Programming sections** - **Deep Learning** - **Motion sensors**)

1 -..... help robots navigate and interact with their surrounding environment.

2 -..... is a set of commands arranged in a specific manner.

3- ..... contains a set of building blocks for moving sprites in Scratch.

4 -..... is used as a library in Python for data analysis and processing.

5- ..... is one of the artificial intelligence tools that rely on neural networks to learn things very quickly.

5 - ( **Expert Systems** - **Remote Controls** - **Motion Tracking Systems** - **Communication Tools** – **Python** )

1 ..... is considered an interpreted programming language.

2 ..... is an example of infrared sensors.

3 .....can solve complex problems and make difficult decisions.

4 ..... is based on time-of-flight sensors.

5- Robots use ..... to interact with users or other robots.

#### **Question 4**

**Complete the following sentences with the correct answer:**

**1** -The components of robots include the structure, power source, and ....., ....., and.....

- 2** -The ..... function is used in Python to display text or values on the output screen.
- 3** ..... is the file extension for a Scratch project.
- 4** -Despite the many benefits of robotics, there are challenges facing this technology, such as ....., ....., and.....
- 5** .....is an application that uses artificial intelligence to understand and execute your commands.
- 6** ..... understands written and spoken human language.
- 7** ..... is an artificial intelligence technology that can look at an image and tell you everything in it.
- 8** .....sensors help robots avoid collisions.
- 9** ..... sensors emit high-frequency sound waves.
- 10** ..... robots help perform delicate surgeries.
- 11** ..... is a fun educational tool for learning the basics of programming in a visual and engaging way.
- 12** -The ..... area collects the programming sections in Scratch.
- 13** -The ..... area displays the results of a Scratch project.
- 14** -You can control the position of Sprite on the Scratch stage using ..... and.....
- 15** -From the ..... menu, you can save your Scratch project.
- 16** -In Scratch, the ..... coordinate represents horizontal movement, while the ..... coordinate represents vertical movement.
- 17** -Python can be integrated with other programming languages to develop multi-platform programs, so it is considered a.....
- 18** -..... cannot be used in naming variables in Python such as True.
- 19** ..... allows you to write simple code and execute it directly to view the results.
- 20** -The type of variable (int) expresses the value of.....
- 21** -The type of variable float expresses the value of.....
- 22** -The type of variable str expresses the variable of .....



**Question 5:**

**Correct the underlined part in the following sentence:**

- 1 -The wait command is used to repeat a set of commands several times in Scratch.
- 2 -A strings variable can take two values: True or False.
- 3 -The type( ) function is used to display the results of text and mathematical operations in Python.
- 4 -Excel is a fun educational tool for learning the basics of programming.
- 5 -Sound sensors are used in robots that operate in areas with variable light.
- 6 -A model can be created on the EKB website to teach a computer to recognize groups of images.
- 7 -Roomba is an example of an educational robot.
- 8 -LEGO Mindstorms is an example of a home robot.
- 9 -Motors are used as a control unit (the brain of the robot) to direct and control the robot.
- 10 -Light sensors help robots navigate and interact with their surroundings.
- 11 -From the Edit menu, you can save your project in Scratch.
- 12 -The Y coordinate represents the horizontal axis in Scratch.
- 13 -The Blocks area displays the project results in Scratch.
- 14 -The file extension for a Scratch program project is .exe .
- 15- A Python library used in data science and artificial intelligence is Matplotlib.

# كيفية طباعة صفحات معينة من ملف معين

## مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9



خطوة 1



خطوة 2  
اختيار اسم  
الطابعة  
بتاعتك

خطوة 3  
كتابة الصفحات  
المراد طباعتها  
نكتب رقم 4 ثم  
نكتب الشرطة  
دي - ثم نكتب 9

خطوة 4  
اختيار نوع الورق



خطوة 5  
اختيار A4



خطوة 6